



Cape Peninsula
University of Technology

**THE CHALLENGES OF SKILLED RESOURCES RECRUITMENT AND RETENTION
IN CONSTRUCTION PROJECTS. A CASE OF A CAPE TOWN BASED
CONSTRUCTION COMPANY.**

By

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Signed 

Date: 27/07/2022

Abstract.

The challenges involved in the recruitment and retention of personnel with valued talents are a prime issue that many industries are dealing with, and the construction industry is not an exception. This study examines the challenges of attracting and retaining skilled workers in the construction industry specifically at a Cape Town-based Construction Company. In South Africa, the challenges of recruiting and retaining skilled construction workers is often considered in the context of the apartheid era in which non-white education and training was marginalised. Due to the marginalisation and poor skills profile, most non-white and marginalised youths were absorbed in the construction sector which had greater job opportunities for low skilled individuals. The research approach that was used was a questionnaire that was distributed to ten supervisory personnel and sixty-two skilled personnel. Fortunately, all the 72 questionnaires were returned with responses. The data collected from the questionnaires were examined and findings were recorded. The decline in apprenticeship in both the public and private sectors; the increasing use of sub-contractors as well as the uncoordinated approach in the informal sector; the scramble for greener pastures; conditions of employment; safety and health issues associated with the construction industry, are some of the contributing factors to the challenges of skilled human resources recruitment and retention in the construction industry. Lastly, suggestions to mitigate the challenges of recruiting and retaining skilled construction workers were made as follows: prospective employers should use a wider range of job advertising platforms which people from different walks of life can access; construction industry employers should implement a clear career progression path for skilled workers; thirdly, the construction industry ought to acquire relevant technologies in order to improve the working conditions of skilled workers so as to improve their retention; and, lastly, strengthening of labour relations in the construction industry, involving both centralised and decentralised bargaining approaches was found to be important.

Key words: Construction industry; skilled human resources; recruitment and retention.

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Abbreviations and acronyms.

Term	Meaning
DOL	Department of Employment and Labour
GDP	Gross Domestic Product
FIFA	Federation Internationale de Football Association
HR	Human Resources
PM	Project Manager
PMBOK	Project Management Book of Knowledge
PMI	Project Management Institute
RPL	Recognition of Prior Learning
SA	South Africa
SETA	Sector Education and Training Authority
TVET	Technical Vocational Education and Training

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1. Chapter 1: Introduction.

1.1 Introduction.

This research study is focused on investigating challenges of skilled human resources recruitment and retention in construction projects looking specifically at a Cape Town-based construction company.

Recruitment refers to any activity that creates a group of candidates who want to work for an organisation from which the right people can be selected. After successfully completing the recruitment process, organisations will still have to be concerned with retaining the recruited workers as long as the project lasts, depending on the nature of the appointment. Given the nature of construction work which is project based, workers disperse at the end of the project life cycle, especially when the organization does not have new sites. In the event of the availability of a new site, the recruitment process has to be conducted with new candidates trickling in. There are, therefore, challenges in finding these skilled human resources and retaining them until the project's completion.

Globally, the sector of construction is currently faced with unprecedented shortages of skilled workers owing to recruitment and retention challenges.

In a large survey conducted in the United Kingdom (UK) Whysall (2019:16) discovered that as a way of addressing the UK's resource shortage, a heavy emphasis on talent attraction and recruiting could be countered by difficulties with staff retention. In Gauteng province in South Africa (SA), Nkomo and Twala (2012:124) stated that organisations had problems in getting new talent and retaining it. Having noted that there are recruitment and retention challenges globally, regionally, and in SA (particularly in Gauteng) the researcher was inspired to conduct a study on recruitment and retention challenges experienced by a Cape Town based Construction Company which had not been previously researched.

1.2 Background.

Skilled human resources in the construction industry are the industry's most valuable asset. It therefore becomes essential that a construction company places the ideal personnel in the right positions for the business to thrive (Rojas, 2013:424).

Skilled human capital is the most valuable asset of any construction project (as established above) and therefore the process of recruiting and retention of skilled human resources should be looked at with a keen eye. This is true of the challenges construction companies face from the planning phase to the completion phase of a project, all of which can adversely affect the end product. Recruiting the incorrect people who lack the necessary skills and are incompetent in their jobs can lead to poor results, greater labour turnover, increased costs for businesses, and a drop in employee self-esteem.

The construction firm based in Cape Town selected for this study seems to be struggling with recruiting and retaining skilled personnel. Personnel who are recruited at the beginning of a project often fail to commit to work for the firm until the end of the project life cycle. Letshokgohla (2015:2) conducted a study on how personnel with scarce technical skills were recruited, selected and retained in the Limpopo Department of Agriculture (LDA). The findings of the study suggested that there were 100 scarce skill vacancies as a result of the workers leaving the department barely two years after being appointed into positions that had been vacant for a long time. In a similar case in Malaysia, it was found that there is also a serious shortage of skilled workers in that country, and this has become the biggest impediment to the success of the Malaysian construction industry. All of this indicates problems that pertain to recruiting and retaining skilled employees often causing high attrition rates of skilled employees (Zaki *et. al.*, 2012:99). This situation provided the motivation for pursuing this study.

1.3 Problem statement.

The study investigated the challenges of finding and keeping experienced labourers for construction projects at a Cape Town-based construction company.

The underlying aim of the research study was to shed light on how issues relating to recruitment and retention are affecting the company. Given the increase in size of the construction industry and limited supply of skilled human resources, it is imperative to understand the difficulties in finding and keeping qualified technical workers. Comprehensive solutions to these challenges can be tabled by studying and analysing the data collected through a set of questionnaires.

The objective of this study therefore seeks to discern the challenges of both recruiting and retaining skilled resources in construction projects specifically focusing on a Cape Town based Construction Company.

1.4 Rationale and significance of the study

Prior studies that have been conducted globally on challenges encountered in recruiting and retaining skilled human capital in the construction industry have only focused on Europe (UK), in Asia (Malaysia) and in Africa (Kenya). There have not been any similar studies focusing on an individual construction company, particularly, in Cape Town, South Africa. Therefore, the findings and recommendations of this study will no doubt shed some light and contribute to the existing body of literature and to the Project Management Book of Knowledge (PMBOK) on some of the experiences of individual organisations.

Undertaking this research in an individual construction company gives future researchers an insight into how the construction industry in Cape Town has addressed the challenges and the extent of the problem/issue. Serious considerations of the findings and recommendations are expected to attain positive results on recruitment processes and benchmarking with international markets.

Furthermore, this study seeks to highlight the factors influencing the challenges associated with the recruitment and retention of skilled human resources in construction projects. In the event that the findings of this study are carefully disseminated and the recommendations are taken as they are presented, the challenges associated with the recruitment and retention of skilled human resources in construction projects will be reduced.

This study is intended to benefit academia, human resources practitioners, industry leaders as well as infrastructure planners as it will expose and highlight the challenges in recruiting and retaining skilled human resources in construction projects. The study can be used to help inform or advance policies on occupational basic working conditions, labour relations and employment equity as enshrined in the Occupational Health and Safety Act 85 of 1993 (OHSA) which will complement the construction industry of South Africa (SA) at large in regard to challenges of recruiting and retaining these skilled workers.

1.5 Aims and objectives of the study.

The research study explored the challenges of recruiting and retaining skilled workers in construction projects specifically focusing on a Cape Town based construction company.

The objectives of this research were:

- To identify the problem faced in recruiting skilled workers in construction projects;
- To identify the skilled workers' expectations from the construction industry; and
- To determine the reasons for poor retention of skilled workers in construction projects.

1.6 Research questions.

- What are the problems faced in recruiting skilled workers in construction projects?
- What are the expectations of skilled workers from the construction industry?
- What are the reasons for poor retention of skilled workers in construction projects?

1.7 Definition of key concepts.

Challenge.

Refers to a phenomenon that requires sizable physical or mental input for it to be successfully accomplished and therefore measures one's ability.

Skilled Human Resources.

Workers who pursue training and possess theoretical and practical competencies to carry out challenging tasks in a particular field of work and can easily adapt to technological transformation.

Recruitment

Recruitment is the process of identifying potential employees and encouraging them to apply for jobs within a business (Kapse, *et. al* 2012:82).

Retention.

Chimuka (2016:43) defines retention as the technique a business does to make sure its employees don't quit their positions.

Project.

A project is an effort that encompasses numerous activities and resources, designed to achieve predetermined goals, taking into account constraints like time, quality and cost which will nevertheless introduce something new (Megh Bahadur, *et. al* 2020:11).

1.8 Paradigm/Philosophy.

The most common paradigms used in research are positivist, constructivist or interpretive and critical. Positivism is a 'scientific' research paradigm which strives to investigate, verify and expect law-like styles of behaviour, and is normally utilised in graduate studies to check theories or hypotheses (Taylor & Medina, 2011:14).

The constructivist paradigm was introduced in educational research in the late 1970s, and it is strongly influenced by anthropology. Its primary objective is to understand certain behaviours from the inside. As the name suggests, the researcher has to physically test or experience the subject of the research humanistically, in other words looking through their eyes. According to Taylor and Medina (2011:16) advances in the interpretive paradigm have demonstrated the importance of the researcher's own subjectivity within the (hermeneutic) technique of interpretation. They feature its innovative development as a main part of the inquiry technique, thus incorporating the emergent and reflective aspects of interpretive research.

Imaginative and critical thinking are important assets of an educational researcher. In policy formulation and practices, the practitioners must take into account the interests being served, against those that are being marginalised. According to Kincheloe and McLaren, (2011:279) the critical analysis paradigm addresses the problem by sanctioning the researcher to practice 'deep democracy' (which involves characteristic and reworking socially unjust social structures, policies, beliefs and practices). Therefore, the critical paradigm strives to pinpoint, contest, assist and solve societal power imbalances.

1.9 Research Approach.

A close introspection of the research questions informed the researcher to adopt the mixed method design in order to address the requirements of the research. Tashakkori and Creswell (2007:4) define mixed method research as a study whereby the researcher gathers and scrutinises information, combines the results and produces a compressive conclusion, using both qualitative and quantitative approaches in a single study.

According to Creswell (2009:22) a mixed methods approach is better to use in cases where an integration of qualitative and quantitative data would answer the research questions fully, as compared to using either a qualitative or quantitative method approach alone. Sukamolson, (2007) cited by Apuke (2017:42) states that quantitative studies can entail using clinical sampling strategies with a designed questionnaire to ascertain the degree of a given population's traits via the utilisation of statistical strategies.

On the other hand, Hancock (2009:68) posit that qualitative research is popular in the subjective study of human behaviour, attitudes and perceptions and is based on non-numerical interpretation of data. In quantitative studies, as in the present study, surveys are a popular method of data collection that collects and manifest patterns in a phenomena. The survey was self-administered to ensure that almost all members of the construction organisation were reached out and that any necessary clarifications were provided. The questionnaire used in the study comprised of Likert type questions as well as closed ended questions whose frequencies were determined. The quantitative approach was considered suitable due to its relevance in reducing bias and through objective analysis of phenomena (Molina-Azorin, *et. al* 2018:412).

1.10 Research Design/Strategy.

A case study is defined by Thomas (2021:3) as 'the most vivid, the most inspirational analysis that an inquiry can offer'. There are a number of research designs available including the following: cross-section; descriptive; experimental; exploratory; historical; longitudinal; observational; philosophical; sequential; grounded theory; ethnographic case study and many others. This study was based on an exploratory quantitative research design to inquire on the phenomenon of interest at a selected organisation in the construction sector. The collection of data from a typical organisation in the

construction industry was considered appropriate as the organization resembled many construction industries in various ways of recruitment and retention of staff (Thomas, 2021:3). Additionally, selecting a representative case organisation was deemed appropriate as it is less costly and convenient.

1.11 Demarcation/Delimitation of study.

The geographic area of the study was in South Africa's Western Cape Provincial capital city of Cape Town.

1.12 Population.

A population is a group of potential respondents of interest to the study (Bacon-Shone, 2015:37). Furthermore, Polit and Hungler (1999:37) define a population as a distinct group of individuals, subjects or objects with a common set of characteristics. It is from this group of individuals that statistical samples are collected. Mindful of the research questions and objectives, the eligibility criteria of the participants in this study was strictly based on personnel physically involved in the company construction projects. It therefore consisted of Human Resources (HR) personnel, Project Managers (PMs) or site agents, permanent skilled workers and contract skilled workers from different sites. The population of the study comprised 72 participants out of the 80 workers on site. The eight workers who did not participate were members whose portfolios were not covered by the study, for example cleaners and office clerks.

1.13 Sample method/technique and sample size.

According to Mujere (2016:108), a sample will supply the information needed about the population under study. He, however, goes on to argue that there is no guarantee that any sample will accurately represent the population from which it is collected. The convenience sampling makes it easy for the scholar to get data, from whoever is at his disposal. Non-probability convenience sampling was employed in this study since a questionnaire (which is a self-conducted approach) was employed as shown in Table 1 below. The table illustrates that there were 10 office bearers/ managers, 28 permanent skilled workers and 34 contract skilled workers.

Sample size.

In this study, the suggested sample size was 72 respondents, and it comprised of: HR personnel; PMs or site agents; permanent and contract skilled workers in most trades. These trades include: bricklayers; plasterers; carpenters; plumbers; painters; tilers; electricians; welders and other construction trades which speaks to stratified approach. The composition of the study units are as follows:

	Portfolio Description	Quantity
1	Human Resources Manager	1
2	Assistant Human Resources Manager	1
3	Project manager	1
4	Site engineer	1
5	Quantity Surveyor	1
6	Assistant Quantity Surveyor	1
7	Project foreman	2
8	Civil engineering technician	2
9	Permanent skilled workers	28
10	Contract skilled workers	34
	Total	72

Table 1.1: Composition of study units.

1.14 Data collection instruments.

A questionnaire refers to a package of questions aimed at gathering data from a participant in a study (United States Census Bureau, 2012).

Based on the study's objectives, research questions and themes from the literature, a questionnaire was used in this study.

The questionnaire was personally issued to the selected groups of the population (Letshokgohla 2015:34). One questionnaire was for the office bearers (HRM, Assistant HRM, PM, Site engineer, Project foremen and Civil engineering technician). The other questionnaire was designed for contract and permanent skilled resources. Both questionnaires were designed in a way that included a rating scale based on the questions and open text format questions. A questionnaire is more convenient than a

one-on-one interview, since it does not interfere with the respondent's working time as he/she can respond to it outside of working hours, without the influence of the researcher's presence.

The information used to develop the questionnaire was generated through a close study of the research questions and were tested through piloting of the questionnaires to ensure validity and reliability before the final data was collected. The questionnaire piloting was conducted from five respondents from the construction organisation and this assisted the researcher in identifying both potential problems and possible solutions. This offered the researcher an opportunity to refine the questionnaire by improving the structuring of items as well as grammatical issues.

1.15 Data collection/fieldwork.

A site visit was conducted and questionnaires were distributed to the respondent taking into account that not all respondents, would have access to media platforms to receive and submit responses electronically. In the same breath, COVID-19 protocols were strictly observed to ensure safety of both the researcher and the respondents. A site visit by the researcher for distribution and collection of the questionnaire was identified as a cost-effective technique for the respondents. This is because it only required the researcher's time. Electronic and telephonic interviews through WhatsApp were foreseen to be an expense for the respondents as their air time credit was not going to be compensated. Liaising with the HRM in order to gain access to the site and safely distribute and collect the questionnaires from the respondents was key. The evidence above made site visits the most relevant and convenient approach.

1.16 Data coding and analysis.

Data was captured using the software Statistical Package for the Social Sciences (SPSS 16.0). This package is used by various kinds of researchers for complex statistical data analysis.

1.17 Ethical consideration.

Ethics is a set of moral principles that give guidance on what is acceptable and unacceptable when conducting an activity. Terreblanche, *et. al.*, (2006:62) show

concern about research ethics and emphasise that it should highlight authentic behaviour of the research respondent and encompasses all forms of misbehaviour that seek to compromise the integrity of the research. Additionally, a consent letter was issued to ensure informed consent. The goals of the study were well explained to potential participants. In addition, confidentiality and anonymity were guaranteed as follows:

- The responses were anonymous
- There were no names on the questionnaires;
- Their responses were never disclosed in publications; and
- The name of the company was not revealed.

Participants were assured that their rights and privacy were ensured and protected throughout the duration of the study and that they could withdraw their participation at any stage of the research.

1.18 Outline of the dissertation.

1.18.1 Chapter 1: Introduction.

The Chapter highlights the background of the research as follows:

- Background to the research problem;
- Statement of the research problem;
- Hypotheses or research questions;
- Objectives of the research;
- Rationale and significance of the study;
- Delineation of the research;
- Research design and methodology and
- Ethical consideration and conclusion.

1.18.2 Chapter 2: Literature review.

It provides an overview of studies conducted by earlier researchers and concentrates on the study's documentary research component, notably on issues related to the recruitment and retention of skilled resources in the construction sector.

1.18.3 Chapter 3: Research methodology.

This chapter scrutinises the research methodology that was used in this particular study.

1.18.4 Chapter 4: Presentation of the data analysis and interpretation.

This chapter outlines statistical interpretation of the data gathered through the questionnaires issued to the respondents.

1.18.5 Chapter 5: Conclusion and recommendation.

This chapter utilises the data statistically interpreted in chapter 4 to draw conclusions and make recommendations.

1.19 Limitations of the research.

The study was conducted at a time when the coronavirus outbreak was prevalent resulting in a country-wide hard lockdown which affected companies and delayed data collection from prospective respondents.

The non-availability of construction projects at the time earmarked for questionnaire distribution and collection also hampered the research. There was a limited number of skilled workers available at the time earmarked for questionnaire distribution and collection. This could have limited the amount of information collected and the strength of the inference that could be done.

A postponement was considered up until there was stability in terms of full staff complement active on site.

1.20 Problem statement.

The study investigated the challenges associated with the recruitment and retention of skilled human resources in construction projects, focusing on a Cape Town based construction company. The study focused on a construction company located in Cape Town and looked into the difficulties in finding and keeping experienced labourers for construction projects. In a study of the construction sector by Construction Industry Development Board [CIDB] (2012) of SA construction companies, findings were that some construction workers were abandoning their employment and relocating overseas, whilst others were moving from one company to another.

1.21 Aim.

The aim of the study was to scrutinise the difficulties associated with both engaging and retaining specialised human resources in construction projects in Cape Town.

1.22 Methodology.

The quantitative design was chosen as the most appropriate one for this study in order to explore the research issues and produce the intended outcomes. A total of 80 people were present for the study's population, of which 72 participants took part. Closed-ended questions and questions based on a Likert scale were included in the framework of the questionnaire. The researcher physically distributed and collected the questionnaires, and she then entered the data using the SPSS software. They were analyzed using a spreadsheet, which produced thorough study results. The names of all respondents who participated in the study were hidden, and the data they provided was carefully preserved so that it could not be accessed by any outside party.

1.23 Ethical Considerations.

A consent letter was distributed/issued. Prospective participants were told of the objectives of the study, and that confidentiality and anonymity were guaranteed. Responses were anonymous.

- The responses of the participants will never be disclosed in public and they will be used for academic purposes only;
- The name of the company will not to be revealed in publications and at conference presentations;
- Participants were warranted that their rights and privacy were to be respected and they were able to withdraw their participation if they wished to.

1.24 Significance of the study.

There have been studies undertaken globally on the challenges of recruiting and retaining skilled human capital which have affected the construction industry in Europe (UK), in Asia (Malaysia) and in Africa (Kenya). In order to present a different viewpoint, this study was carried out in Cape Town. This study will be useful to HR practitioners, PM and skilled workers themselves.

1.25 Conclusion.

Construction companies throughout the world are finding it difficult to find qualified workers. Along with difficulties with recruitment, keeping skilled workers on board for the duration of a project's life cycle and into the next one is a significant challenge for construction companies. It is crucial to look into how serious these issues are for the building sector. Therefore, the research study looks for answers to the two issues of recruiting and keeping skilled workers by construction companies and other industries that may also encounter issues of this nature. With this anticipation, construction companies and skilled workers will reconcile for the benefit of both parties. With this hope, construction companies and skilled personnel will come to an amicable agreement that will benefit both parties.

2. Chapter 2: Literature review.

2.1 Introduction.

In this chapter, the past research on the challenges encountered in recruiting and retaining skilled workers will be outlined. The challenges of recruiting and retaining skilled workers across all industry sectors are a global phenomenon, meaning that the construction industry is not an exception in this regard.

For the research to serve its intended purpose, there had to be a critical study of the existing literature on the subject. In this regard, this was considered an integral part of the research project planning and execution. The process of looking into existing literature review helps in hypothesis formulation, identifying gaps and framework formulation.

"Recruitment entails actions and activities conducted by an institution to locate and entice people who have the skills to support the institution's achievement of its strategic goals." (Evers *et al.*, 2005:48 cited Letshokgohla 2015:9). According to Nkomo (2009: 125), "the number one issue for all of us in SA, and in the whole world is employers finding good, strong people with the right education, training, and being able to retain them."

In Malaysia, the skilled workforce is in serious shortage. Manap (2017a:1) studied the construction labour force and classified it as skilled, semi-skilled and general labour. This has become the biggest impediment to the Malaysian construction industry. The shortage will cause problems that pertain to recruiting and retaining employees in some cases, causing a high attrition rate of skilled workforce (Zaki *et. al.*, 2016:100). In Gauteng province in South Africa (SA), Nkomo and Twala (2012:125) suggested that organisations had problems in getting new talent and retaining it. The unavailability of skilled human resources has an impact across continents. Scrambling to secure key technical personnel is now a matter of contention.

2.2 Challenges encountered in the recruitment of skilled human resources in the construction sector.

2.2.1 Introduction.

Skilled human resources are fundamentally an important asset of infrastructure development and economic growth. There are many well detailed developmental plans

that authorities in different structures of government may enthusiastically drive, hoping to see physically completed projects nevertheless, they are not always realised. The biggest challenge is implementation. At times, there are few or no skilled personnel to implement the plans. Many industry sectors are facing this phenomenon and the construction industry is no exception. Skilled construction tradesmen recruitment is an issue rocking both developed and developing economies around the world.

2.2.2 Lack of interest by local population.

According to Manap (2017b:2), the Malaysian construction industry is dominated by immigrant workers since the young population classifies construction work as low status and they opt to work in manufacturing firms, where they believe there are vast opportunities for growth and better prospects. Although there has been so much technological advancement across all industry sectors, physical work in an uncomfortable environment is still a dominant feature of the construction industry to date. Therefore, men and women with immediate employment options often do not choose construction work at the expense of manufacturing, marketing, retail, hospitality, recreation, tourism and many others. The alternative options offer comfortable working conditions and easier and lighter work packages.

In Malaysia additionally, local workforce participation is not particularly encouraging, and it is well known that the needs of industry were not being met by the competent people produced through vocational training such that even after gaining instruction from building training institutes, many of them left the construction sector (Zaki et. al. 2012:100-106)

A shortage of critical skills does not imply that there is a shortage of workers or individuals willing to work; rather it entails the shortage of the skilled as well trained labour available to be recruited by construction firms. Olsen et. al., (2012:77) outline an interesting case of the USA construction industry which has been facing challenges in recruiting skilled human capital since as early as 1980. This same article by Olsen goes on to state that the construction industry has not been attractive enough to young people who opt to go and attain degrees and shun the blue collar career path. The other youth were of the view that working in a construction environment does not offer a clear career growth perspective within a reasonable time frame compared to other sectors.

With all these factors causing a shortage of skilled labour, this has made recruitment of these technical personnel very difficult, and more concerning is retaining talent that many construction competitors are scrambling for. In a similar case in the United Kingdom the construction industry has not been performing well since as early 1994. (Ness 2011:89). The UK construction industry has been facing a lot of criticism for lacking performance compared to other industries. It has been the slowest in adopting new technology and processing improvement. In order to handle issues relating to skills, such as talent management and training, these difficulties have been linked to a

In the context of SA, according to Olatunji (2015:79), the young population also regards construction work as highly labour intensive, involving too many relocations and exposure to safety risks, and therefore, they opt for other industry sectors.

2.2.3 Political influence.

Political interference is increasingly manifesting itself in both state and privately owned institutions whereby local politicians dictate to the HR personnel, how they must conduct the recruitment process. According to Zinyemba (2014:31) (HR) personnel are forced to go against their institutional recruitment and selection policies for their personal safety and to keep their jobs. Consequently, HR personnel end up recruiting incompetent workers at the expense of competent or qualified people who are not politically connected.

2.2.4 Uncertainty about the job demands and candidate's capability.

Some researchers like Morgeson (2019:10) argue that HR practitioners must conduct a thorough analysis of the roles, responsibilities, behaviour and competencies of a vacancy before it is advertised in the media. Therefore, in order to compile a detailed job description in a job advertisement, a job analysis is crucial. To determine the suitability of a candidate shortlisted for an advertised post, many organisations use the following: individual screening; committee; and behavioural interviews. However, these forms of interview do not explicitly reveal the candidate's psychomotor skill competency level as some candidates are smooth tongued in verbal interviews. However, these candidates may have challenges in physical exhibition owing to recruiting practically incompetent personnel. The suggestion therefore is that candidates have to go through both a theoretical and practical interview in order to test

both behavioural attributes of cognitive competency and psychomotor skills (Waxin, 2018:93).

2.2.5 Nepotism.

It is a common practice amongst those in power to show favoritism towards family members or friends particularly through the allocation of jobs. According to Chimuka (2016:15) similar to political influence, top management may instruct HR department on who to appoint, regardless of the prescribed recruitment criteria. Advertising, shortlisting, and interviewing is just a formality for record keeping and deceiving the unions and industry policy demands. Therefore, deserving qualified people are not considered at all owing to challenges, making a mockery in recruitment for the HR personnel whose powers will be limited if they try to object.

2.2.6 Police clearance and references of candidates.

“It is advised to collect references from current and previous supervisors who can testify to the candidate's on-the-job performance because past performance is the best indicator of future success” (Rabin 2018:25).

However, the resources which are required (including time) to contact the list of references in a Curriculum Vitae are significant. This results in some HR practitioners ignoring this important exercise culminating in the appointment of candidates with criminal records, poor work ethics and possibly incompetent in other ways. It is therefore suggested that police clearance issues be decentralised to local police stations for quick feedback to accelerate the recruitment processes.

2.2.7 ‘Greener pastures’ disposition.

According to Brink (2012: 663), SA lost highly competent professionals and tradesmen to overseas markets as a result of the state-of-the-art education and training approach. This results in the construction industry appointing economic migrants some of which are asylum seeker permit holders in positions of skilled workers. This turns the selection and recruitment into a more complex process since economic migrants and asylum seeker permit holders’ qualifications have to be evaluated by South African Qualification Authority (SAQA) to establish their qualification’s equivalence with the National Qualification Framework (NQF).

2.2.8 Over-qualification.

In a society where unemployment figures are high, qualified people may end up taking job opportunities that are far below the qualifications they hold. At unspecified periods of time, they will secure better job opportunities and leave. This results in the HR department being in a continuous cycle of posting advertisements, shortlisting interviewing and appointing. This comes at a price in terms of resources (again including time) that is invested in the whole process. In addition, the company may fail to meet certain delivery deadlines between advertisements and appointments (Zinyemba, 2014:31).

2.2.9 Labour market remoteness.

According to Baron (2018:186), recruiting qualified personnel may be a huge challenge in remote sites. Very few qualified people prefer to relocate to remote places far away from centers of influence and amenities, for the sake of securing employment. This becomes a huge challenge to the company's HR department.

2.2.10 Advertising costs.

Traditionally, print media was the most widely used instrument for advertisement. Although print media is still in use, it is challenging to determine which media house has the greatest readership (Chimuka, 2016:14). Radio and television are very expensive however it is easy and quick to send out messages to potential candidates. The cost of advertising causes huge challenges to recruiting the best candidates with rightful skills.

2.3 Retention challenges of skilled resources in the construction industry.

2.3.1 Introduction.

“Business practices such as work design, incentives, flexibility, training and direction settings are seen as antecedents of High Involvement Work Systems (HIWP) which positively influence employees' perceptions of the attractiveness of an organisation and actually measure whether this occurs across sectors, industries and employers” (Hutchings, 2011:16).

Whilst institutions may have predetermined workers' needs, that may not be enough. It is imperative to conduct interviews on the needs of the employees and fulfill them as a tool for employee retention.

The following are findings of the challenges encountered in retaining skilled resources in construction firms.

2.3.2 Uncompetitive remuneration.

In a study conducted by Paus (2018:73), the increase in wage gaps in Latin America during the course of the previous 50 years was partly explained by the relative reduction in value of labor-intensive products. The rise in the proportion of the labour force with University Degrees, on the other hand, tends to cut back wage inequality in countries like Chile. Yet, according to Brink (2012:51) employers should fully account for the welfare of their workers and ensure that they get the necessary support in advancing their skills, in order to win the scramble for skilled resources. In general, salary/wage increments undoubtedly stimulate efficiency, loyalty, trust, responsibility, accountability and a sense of ownership in workers of all industry sectors around the globe. Some employers are embracing salary/wage increment as a tool for retaining workers in their companies.

Workers who are fairly compensated for their labour are most likely to remain in their jobs. Poor remuneration leads to severe shortages of skilled workers. In addition, the majority of the construction workers are engaged on a contract basis in line with predetermined project life cycles. This ensures the non-permanent nature of many of the jobs in the industry. Some employers capitalise on this situation and end up offering wages that are inconsistent with the national minimum wage (Aiyetan, 2015:78). Failure by unions, bargaining chambers and the Department of Employment and Labour (DOL) to decisively establish competitive wages in line with the international community, exacerbates the situation.

In a study carried out by Kaye & Jordan-Evans (2002:32), cited by Van Rooyen, et al, (2010:5) the significance of income as a retention instrument was emphasised with some workers showing more interest in overseas income rates. On the other hand, Muguongo *et al.*, (2015:49) state that remuneration, along with job security, has constantly stayed on the list of the top five job satisfaction elements most essential to employees. They further defined compensation as a systematic way to provide monetary value to employees in exchange for work accomplished.

2.3.3 Poor working conditions.

Human capital retention is at the top of all organisational priority lists due to the costs that are associated with recruitment processes, training of recruited employees and production lost due to a vacant post. Working conditions have both a positive and negative influence on an employee's intentions to leave or remain in an organisation. In an environment with poor working conditions, it becomes difficult for PMs or HR officers to retain skilled workers. It is easy to retain employees when the working conditions are good. A small survey conducted on 336 Frenchman from different industries and job contexts in relation to their working conditions and intentions to leave the organisation yielded interesting results. The survey found that where working conditions were considered terrible, there were high chances of employees voluntarily leaving the organisation.

The construction industry world over is a very hazardous industry which can lead to fatal and non-fatal workplace injuries. By the same token, the culture of the construction industry is characterised by crisis, conflict and male domination which does not help but increases attrition throughout the project life cycle (Abdullah, et. al 2013).

The Nigerian construction industry has been facing a slow growth due to the lack of commitment to employee training. It is characterized by a lack of skilled workers and poor craftsmanship. The Nigerian construction industry does not use technology, hence the quality of work depends on the quality of human capital. The industry has also been characterised by a poor image of working conditions which includes poor health and safety standards, high risk work such as breathing fumes and working with sharp objects. This has caused high labour turnover in the industry (Abdullahi, 2015:16).

Looking at the situation closer to home, in SA many construction employees have confessed to operating under stressful working conditions. The stress is caused primarily by the mismatch between the demands of the job and resources that are available and at the disposal of the employees. The employees show symptoms of psychological and sociological stress which eventually leads to a high turnover. In an online survey conducted on SA skilled human capital in the construction industry that included architects, civil engineer, quantity surveyor and PMs, it was shown that poor working conditions cause stress which generates bad habits in a bid to cope with it. A

third (33.3%) confessed to drinking more than 3-9 units of alcohol per week while 1 in every 6 admitted to smoking more than 40 cigarettes a day. These bad working habits eventually cause the HR personnel to voluntarily shift workers ultimately costing companies massive revenue losses (Bowen *et. al.*, 2014:3).

2.3.4 Inadequate resources to perform duties.

Skilled workers are happier and more efficient when they are provided with basic personal protective equipment, materials, and tools required to perform prescribed activities in their contracts. Institutions which do not provide adequate resources such as building materials occasionally send contract employees back home until such time as resources are available, which results in employee loss of income. Letshokgohla (2015:36) suggests that one of the underpinning factors behind skilled workers quitting the job and moving on to another firm is the undersupply of materials, safe tools and equipment necessary to perform duties.

2.3.5 Lack of growth.

Skilled artisans, like any other skilled personnel in other industry sectors, measure their growth against their years of experience and competency levels. A study carried out by Patro and Kumar (2019:413) it is suggested that the main cause of work-related stress, which manifests as a lack of training and development, inadequate promotion policies, insecurities at work, and lower pay levels, has been thought to be a lack of clarity on the route ahead in terms of career progression.

The study noted that one company, gave its call center employees who had become well-versed in technical topics, the opportunity to become surveyors in an effort to ensure that there was growth.

An increase in the overall level of employee satisfaction also increases the level of retention, elevates the loyalty index and reduces the continuous search for better opportunities elsewhere.

Communication and the nature of the work, ongoing training, the economic status provided by a particular job, emotional stability, financial incentives, and the combination of extrinsic factors (bonuses and monetary benefits) and intrinsic factors (professional fulfillment and good relationships), applicable particularly to the young workforce, are key factors enhancing overall levels of job satisfaction subsequently owing to high retention index (Davidescu, *et. al.*, 2020:9).

Institutions which invest in proper indoor and offsite training programmes impart growth to their workers who in return appreciate it by remaining in their jobs.

2.3.6 Lack of career guidance.

Course selection is an amalgamation of a lot of things, the intrinsic and extrinsic factors such as financial incentives, job security, and some social issues. These factors can adversely affect career choices. This has been recorded to be the case in the UK construction industry. The other issues relate to how the trained staff transition into managerial roles, which will affect retention of staff. (Kappa, *et. al.*, 2007:2). In addition, Ngoc Su, *et. al.*, (2021:14) argues that employees should be given the organizational support they need to gain the skills needed during this epidemic and beyond, along with the creation of career pathways that allow for opportunities for advancement.

Watts (2013:249) reiterates the need for a strategy to ensure that learners are properly guided when choosing careers so that they can understand what the career entails and its level of demand on the job market. Uninformed decisions have resulted in a number of skilled workers entering the job markets and resigning abruptly, adding woes to the retention of skilled workers in the construction sector.

Ambitious skilled workers who take pride in their trade look forward to tackle challenging work at some point in the future. Routine work can be monotonous and boring as it does not equip them with the necessary skills for problem solving. Kwon and Hein (2013:33) urges employers to periodically evaluate employees' job description and put in place measures favourable to the employees' welfare.

2.3.7 Job related stress.

Stress is defined as a disease without obvious symptoms, although it determines the physical and mental health of a human being (Saliha 2018:2). Leadership adaptation differs from one institution to another. In a study conducted by Hetland, *et. al.*, (2007) cited by (George, 2013:18) on leadership style in a Norwegian Information Technology Firm, this was established that the leadership approach chosen will, in one way or another, have a bearing on the workers' burnout index.

2.3.8 Conclusion.

This study explores the challenges that construction companies face in recruiting skilled workers. The contributing challenges of recruiting and retaining skilled construction trades people are widespread and touch on the employer, the skilled worker, training service providers and government policy. The study also explores various factors contributing to the challenges encountered in retaining skilled construction workers. As long as the challenges of appointing and retaining skilled construction workers are perceived to be an employer matter, these challenges will be in the industry for some time.

3. Chapter 3: Research methodology.

3.1 Introduction.

In the previous Chapter, relevant literature for this study was considered and various theories and concepts, including findings from other research linked to this study were reviewed. This was important in order to bring the present study into perspective and establish the theoretical basis for it. Results on the challenges of full resources enlisting and retention within the construction sector were discussed. Essentially, the literature review was done in relation to the problem statement that was formulated in the study. This was important in giving directions for the present Chapter. In this Chapter, key methodological issues related to the study are considered and the scientific approach adopted for the study is explained. In order to justify and increase the acceptability as well as the rationale for methodological choices, the research paradigm is explained as a key departure point. The research approach is outlined since it informs the actual research design of the study. Related to the research design are issues associated with field work and data collection which are also explained. The ethical dimensions and the validity and reliability of the study are discussed. The literature review highlighted above was also important in shaping the methodological choices which are outlined in this Chapter.

3.2 Paradigm/Philosophy.

As expressed in Chapter One, this research was developed with the primary aim of exploring challenges in recruiting and retaining skilled personnel for construction projects. To achieve this, certain assumptions were made about the reality of world phenomena related to knowledge, and the nature of knowledge or reality.

The study was specifically designed to focus on a selected construction company based in Cape Town. The construction industry is deemed to be a suitable sector as it is a booming and growing industry. Like all other studies, the investigation conducted in this study drew upon certain assumptions which informed the basis of the methodology. Researchers contend that all research is based on certain philosophical positions and worldviews which define and shape the design and conduct of the entire study. In other words, the choices made in conducting the study were based on the general assumptions and beliefs held in conducting the study. This study adhered to

certain founding positions which defined the paradigms of the study (Creswell & Creswell, 2018:22).

A distinction can be made between two major research traditions and the associated paradigms that have dominated scientific enquiry over the years. Positivism and constructivism/interpretivism are the most common paradigms used in research. Positivism is a 'scientific' research paradigm which strives to investigate, confirm and predict law-like patterns of behaviour. It is commonly used in graduate research to test theories or hypotheses. The constructivist paradigm is another option for conducting research that is opposite to the positivist paradigm (Taylor & Medina, 2011:4). Anthropology strongly influenced this paradigm and it was introduced in educational research in the late 1970s. Its primary objective is to understand certain behaviors from the inside. However, the present study was founded on the positivist paradigm as it was based on the belief that there are certain principles and laws or patterns of behaviour. The justification for adopting the positivist paradigm was based on the realisation that recruitment and retention behaviours often follow certain patterns which can be objectively analysed. These patterns often form the basis of the reports on the rate of employment and the cycles of employment.

In contrast to the positivist paradigm, constructivism is the paradigm that relates to the analysis of social phenomenon based on interactions and the analysis of constructive interpretations of behaviours, reality, attitudes and perceptions. While constructivist researchers are often concerned about the subjective world, positivist researchers are usually concerned with objective phenomena. In interpretative studies, researchers often immerse themselves in data and physically test or experience the subject of the research humanistically, in other words looking through their own eyes. According to Taylor and Medina (2011:1-16) the latest achievements in the interpretive paradigm have shown the importance of the researcher's own subjectivity in the (hermeneutic) process of interpretation. Advancements in the interpretive paradigm have also resulted in the emergence of a critical element based on imaginative and critical thinking as important assets of a researcher. Critical researchers often consider disadvantaged and marginalised groups and their emancipation. In policy, critical researchers often check whose interests are being served against those that are being marginalised.

In adopting the positivist paradigm to investigate issues related to the recruitment and retention of skilled workers, the research sought objective data with minimum bias that can arise from the collection of, and reliance on, subjective research methodologies.

3.3 Research Approach.

Researchers adhere to two principal research traditions, namely: the quantitative approach and the qualitative tradition. However, to solidify the theme and enjoy the advantages of both approaches, the mixed research approach has emerged. Owing to its advantages as a hybrid approach, the mixed research approach has often been used to foster the validity and reliability of scientific evidence. With the help of a mixed-methods approach, researchers are able to address many goals and objectives as well as strive to elaborate, improve, and clarify the findings from one method research to the other for instance an integration of qualitative and quantitative data (Maben 2018). This study was, however formulated to follow a quantitative research approach because it aimed to base its conclusions on observed patterns among participants. It was important to ensure that the study is methodologically rigorous and that the quantitative research design was conducted in a manner that promoted thoroughness and methodological strength. This was done, by utilising an objective analysis strategy in both the collection and analysis of data and other forms of evidence. According to Tashakkori and Creswell's definition of the quantitative methodological design (2007:4), quantitative research is a study in which the researcher collects and examines numerical data pertaining to certain phenomena. According to Sukamolson, 2007, cited by Apuke (2017:43), quantitative research includes the use of scientific sampling techniques, a developed questionnaire, and the application of statistical methodologies to measure the characteristics of a particular population.

The quantitative approach was considered suitable due to its relevance in reducing bias and through objective analysis of phenomena (Molina-Azorin, *et. al.*, 2018:412). The questionnaire was self-administered to ensure that almost all members of the construction organisation were reached out and that any necessary clarifications were provided. The questionnaire used in the study comprised of Likert type questions as well as closed ended questions whose frequencies were determined.

3.4 Research Design/Strategy.

There are a number of research designs available including: cross-sectional; descriptive; experimental; exploratory; historical; longitudinal; observational; philosophical; sequential; grounded theory and ethnographic case studies. This study was based on an exploratory quantitative research design to inquire on the phenomenon of interest at a selected organisation in the construction sector. The collection of data from a typical organisation in the construction industry was considered appropriate as the organisation resembled many construction industries in various ways of recruitment and retention of staff (Thomas, 2021:3). Additionally, selecting a representative case organisation was deemed appropriate as it is less costly and convenient. An organization in the construction sector based in Cape Town was sampled. Some of the main merits of the chosen design include its capacity to generate information that can be useful with relative convenience. This design is known for its relevance in studies, in which a smaller number of participants are expected to provide responses that can effectively be considered representative of the entire population. Challenges encountered in the recruitment and retention of skilled personnel have been considered by other researchers from a generalised perspective. In adopting the chosen design, it was believed that there is need for more case specific investigations which are in-depth and rich in context. Therefore, the design adopted was deemed the best to adequately achieve the objectives of the project.

3.5 Demarcation/Delimitation of study.

The geographic area of the study is in SA's Western Cape Provincial capital city of Cape Town. Cape Town has a large and booming construction sector owing to a number of developmental projects taking place in the city. As a result, the city was a suitable area for the present study. Among the many construction companies of different sizes and scope, the study focused on a construction company which was willing to participate. The study was limited to the analysis of strategies for the recruitment of skilled workers as well as their retention. While human resources management involves various activities across the employment cycle, the study explicitly focused on challenges of skilled worker recruitment and retention.

3.6 Data collection/fieldwork.

Given that the study was aligned to the positivist paradigm which is quantitative, the data collection methods and fieldwork were set to achieve the collection of numeric data. Samuels (2020:1) explained that quantitative data is based on factual information that involves numbers and specific categories. In this study, a site visit was conducted and questionnaires were distributed to the respondents, bearing in mind that not all respondents would have access to media platforms to receive and submit responses electronically. To protect both the researcher and the responders, COVID-19 protocols were strictly followed. A site visit by the researcher for distribution and collection of the questionnaire was a more economic approach to take, as the major resource to be spent was time. Electronic and telephonic interviews through WhatsApp were deemed costly to the respondents and the researcher, and it was found that valuable data could be collected through the self-administered questionnaires. Given this arrangement, there was no need for fieldworkers to seek permission from their supervisors since they could take the questionnaires home or simply answer them during lunch break. However, the researcher had to liaise with the HRM in order to get permission to access the site and safely distribute and collect the questionnaires from the respondents. The evidence above made site visits the most relevant and convenient data collection approach.

3.7 Population.

A population is the whole group of potential respondents of interest in a study (Bacon-Shone, 2015: 37). Tarsi and Tuff (2012:1) affirms that a population is a collection of individuals belonging to the same species that coexist and breed in a specific location. The population for this study involved members of a construction project who were deemed capable of providing the required information relevant to the study objectives and research questions. It is from this group of individuals that statistical samples were collected.

The eligibility criteria of the participants in this study was strictly based on personnel physically involved in the company construction projects, with specific characteristics embedded in the research questions. In this case, the population consisted of HR personnel, PMs or site agents, permanent skilled workers and contract skilled workers from different sites. The population of the study comprised 72 participants out of 80

members on site. The eight non-participants were members whose portfolios are not covered by the study, for example cleaners and office clerks.

3.8 Sample method/technique and sample size.

Samples are smaller groups taken from a population to provide data required in a certain study. The sample is part of a population and is often the basis of a study owing to its convenience, in cases where the entire population cannot be easily interacted with. Well selected samples have been found to be effective in providing data if they effectively represent a population. According to Mujere (2016:108) a sample will supply the information needed about the population under study. However, there is no guarantee that any sample will accurately represent the population from which it is collected. There are many sampling techniques available for researchers. These are broadly divided into probability and non-probability sampling. Although non-probability sampling methods are often popular among qualitative researchers, quantitative (probability) sampling methods often dominate quantitative studies. The distinction between sampling methods is based on the degree to which each member of the sample has a chance to be selected in the study. Probability sampling methods give an equal chance for selection among all participants, while non-probability sampling techniques often involve the selection of participants based on some specific criteria.

The study was formulated to seek data from all members of the organization who were available and who were willing to provide the required information. As such, it entailed the use of a census methodology convenience sampling strategies where all participants are selected to participate. It was also noted that there was a need to ensure that the participation was also subject to convenience. The construction organisation from which participants were found, was chosen based on purposive and convenience sampling strategies. In purposive sampling, participants are chosen based on their appropriateness in providing useful data, while in the convenience sampling technique, participants are chosen based on some criteria such as ease of use and decreased cost. The convenience sampling method selected made it easy for the researcher to get data from the participants.

3.9 Sample size.

Out of the 80 members of the population at the construction company, 72 became available for the study. The 72 participants included: the HR personnel; PMs or Site

agents; permanent and contract skilled workers in most trades including bricklayers, plasterers, carpenters, plumbers, painters, tillers, electricians, welders and other construction trades. Details of the respondents, the description of their portfolios and the numbers who participated are provided in Table 3.1 below.

	Portfolio description	Number
1	Human Resource Manager	1
2	Assistant Human Resource Manager	1
3	Project manager	1
4	Site engineer	1
5	Quantity surveyor Quantity surveyor	1
6	Assistant	1
7	Project foreman	2
8	Civil engineering technician	2
9	Permanent skilled workers	28
10	Contract skilled workers	34
	Total	72

Table 3.1: The composition of the participants of the study.

Table 3.1 above shows that the majority of the participants were contract skilled workers (34 out of 62) while permanent skilled workers also constituted a significant number (28 out of 62). The prevalence of contract skilled workers is an indicator of the relevance of the study to investigate the challenged encounters in the recruitment and retention of skilled resources in the sector.

3.10 Data collection instruments.

A Likert scale type questionnaire was the analysis instrument used for collecting information on the challenges faced by the chosen organisation within the enlisting and retention of skilled workers. Likert scales were first designed by Rensis Likert (1932) in his work on the measurement of attitudes and they have since been adapted in many ways to address various research agendas especially in the social sciences. According to Roopa and Rani (2012:273), a questionnaire is just a set of mimeographed or printed questions that a respondent fills-in to express his or her views.

In this research, the instrument used for data collection was a questionnaire which was constructed based on the research objectives and questions as well as themes from the literature review. The questionnaire was personally issued to the selected groups of the population (Letshokgohla, 2015:35). One questionnaire was for the office bearers HRM, Assistant HRM, PM, Site engineer, Project foremen and Civil engineering technician. The other questionnaire was designed for contract and permanent skilled personnel. Both questionnaires were designed in a way that they included rating scale based and close-ended questions. A questionnaire is more convenient than a one on one interview in the sense that it does not interfere with the respondent's working time as he/she can answer it outside working hours and without the influence of the researcher's presence. The information used to develop the questionnaire was developed based on the research questions and objectives, and was tested through piloting it to ensure validity and reliability before the final data collection.

Williams (2007:67) recognizes that pilot studies are an important stage that is necessary in most studies as it helps to further improve the questionnaire and provide directions for the detailed analyses that will follow. Therefore, the study relied on the pilot study to further map out how to conduct the study and how to improve the questionnaire. Questionnaire piloting was conducted amongst 5 members of the construction organisation to assist the researcher in identifying both potential problems as well as possible solutions with a view for refinement. As a result of this process some grammatical corrections were effected and some of the questions were made more specific.

3.11 Validity and reliability.

Christensen, et al., (2015:156) explain that the reliability and validity of a study are important aspects of any scientific enquiry. Kumar (2014:183) explains further that the concept of the reliability of research instruments relates to their stability, consistence and predictability. In this way, reliable instruments are seen as those that can produce the same results, if the study is replicated under the same conditions. To ensure that the questionnaire used in this study was reliable, a parallel form of the same test as provided in Kumar (2014:183) was implemented in the form of a pilot study.

By selecting a small sample of respondents to participate in the initial instrument validation, as was previously noted, the validity and reliability of the questionnaire were also guaranteed. Those who participated in the validation exercise were excluded from the actual data collection process. It is generally accepted that the validity of a research instrument considers the degree to which the instrument measures the actual issues for which it was designed to measure. Validity involves the link between the items of a research instrument and the research objectives and the research question (Christensen, *et al.*, 2015:156). To ensure that the study was valid, a questionnaire validation process was initiated in which both research and industry experts scrutinised the questionnaire items, and added as well as removed some items which were not consistent with the study objectives and research questions. During this process, the questionnaires were discussed and revised and updated. Items that were found to be confusing or to be inappropriate were removed from the questionnaire.

The validation process was done through e-mails between the lecturers and the industry experts during which they suggested some changes.

3.12 Data coding and analysis.

Quantitative data analysis can be descriptive, experimental or causal (Williams, 2007:66). The study sought to effectively discover and describe the demanding situations involved in recruiting and retaining of skilled workers in the construction sector. As such, the data analysis was set to use descriptive statistics. Such statistical parameters are frequencies and measures of central tendency. Since most of the data was collected in Likert format coded from 1 to 5, these codes were then used to load and analyse data using the SPSS. SPSS is a popular software for quantitative data analysis used by many scholars and it was deemed appropriate to analyse data so as to derive meaning that was relevant in attending to the study aim, objectives and research questions.

Data analysis for the study mainly involved the analysis of frequencies and measured central tendencies so as to provide descriptive statistics of the data collected in order to draw conclusions. SPSS generated graphs and measures were considered to inform decisions on the challenges faced by the selected organization in the recruitment and retention of skilled workers.

3.13 Ethical considerations.

Ethics is a set of moral principles that gives guidance on what is acceptable and unacceptable, for instance when conducting an activity. In research methodology, concerns have been raised with respect to how researchers ensure that their studies do not affect respondents in any way and do not go against certain moral principles. Research is expected to be beneficial to respondents and there is a need to limit the degree to which this is not realised. Painter & Terre Blanche (2006:215) show concern about research ethics and emphasise that it should highlight authentic behaviour of the research respondent and encompass all forms of misbehaviour that could compromise the integrity of the research. On the basis of these strong sentiments on ethical consideration, all researches should ensure that there is informed consent through obtaining a consent letter, and guaranteeing confidentiality and anonymity. A full discussion of the ethical principles to which this study adhered to is provided in the sections below.

3.14 Informed consent.

In explaining a questionnaire design, Brace (2013:82) recommends that the first page of the questionnaire should provide all essential details to ensure that respondents are informed of the following: names of the organisation commissioning the study; what the study is all about; why it is being conducted and any dangers that it may have. The first page of the questionnaire used for this study provided the following information to the respondents in accordance with the same standards: The University that commissioned it; the title of the study; its aims and how the results of the study were to be used. Respondents were required to fully understand this before they indicated their agreement to participate in the study. All participants who consented to providing data for the study were fully aware of why the study was being conducted, who needed the study as well as how the results of the study would be used.

3.15 Beneficence and Non-maleficence.

Christensen, et al. (2015:115) explain that these two principles mean ensuring that there is no harm to participants and doing good for them. The research principles essentially require that the research conducted should be beneficial and harm should be avoided. To ensure compliance with these principles, the study was formulated to address a real problem relating to improving recruitment and retention of skilled

workers, an essential dimension for curbing the high rate of employment in South Africa. The study itself carried an essential motivation to raise the status of South African construction workers. In addition, no actual names of respondents were used, so that participants remained anonymous throughout the study. The questionnaire had no names and responses were never disclosed in any other publication. The name of the construction company was not disclosed and the researcher's permission to perform the study was properly secured and declared. The participants' rights and privacy were respected and protected, throughout the duration of the study and participants were informed that they could withdraw at any stage of the research.

3.16 Anonymity and confidentiality of data.

The identity of all respondents who took part in the study was withheld and the information that they provided was carefully kept so that it could not be handled by any outside person. These principles were adhered to, to ensure that the entire research process was ethical.

3.17 Conclusion.

This Chapter explained the research paradigm that informed the research approach and the research design that was chosen. The study adopted the positivist paradigm, owing to the belief that there is an objective reality with clear patterns that can be established from the analysis of relevant data. As a result, the quantitative tradition was adhered to in relation to questions asked regarding the challenges faced by the construction industry in the recruitment and retention of skilled workers. As explained in this Chapter, this quantitative exploratory study was based on a study of the retention and recruitment of workers at a selected construction enterprise from which data was collected, to attend to the study objectives. The next Chapter presents the data collected and the analysis.

4. Chapter 4: Findings, data analysis, presentation and discussion.

4.1 Introduction.

The findings of this study were based on the observation that the construction industry has a high demand for skilled workers, but a low retention rate of employees. This has been exacerbated by the changes in the business environment characterized by accelerated technological developments. These developments have called for new skills, attitudes and knowledge. As a result of these shifts, the construction industry has faced a demand for new skills and the need to update the skills requirements of employees in order to meet these demands required for competitiveness. These demands include the skills to operate new machinery and use new technological tools. These are only one part of the challenges faced, as explained in detail above. The study pursued the challenges that are faced by a selected construction company in the recruitment and selection of skilled workers. The previous Chapter described the study's methodology and the research strategy that was chosen to fulfill its goals and research questions. Emanating from the previous Chapter, the present Chapter is a presentation of results. It also provides analysis and discussion. The analysis in the Chapter was done with specific adherence to the study objectives and research questions. A summary of the results is presented at the end of the Chapter to allow for their interpretation in light of the study objectives and research questions.

4.2 Results and findings.

Data for the study was collected from two distinct groups. The basic criterion for involving members from these groups was that they were familiar with the construction project and were deemed capable of providing the required information. HR personnel, PM or site agents, were classified as managers of permanent skilled workers and contractors of skilled workers from different sites. They formed the first group. This group provided relevant data to explain challenges of recruiting and retaining skilled workers from an administrative perspective. The second group was made up of skilled workers who were specialists in the various roles and tasks performed as part of a construction project. These specialists possessed the most critical operational skills that were required for the financial competitiveness of the firm. Their skills are in demand and are critical talents required in the construction sector.

4.3 Data from managers and supervisors of skilled human resources.

The data collected from the managers and supervisors of skilled workers were analysed in terms of biographical details (gender, ethnic group, position in the company and experience) and their perspectives on recruitment and personnel selection in the company.

4.4 Biographical and general information.

4.4.1 Gender and ethnic groups.

Table 4.1 below summarises some key demographical variables which were deemed useful for the study. These included job titles of the managers, administrators and supervisors of skilled workers; their gender as well as ethnic groups. A total of ten (10) office bearers were employed by this construction company.

The personnel who were involved in the study ranged from managers and supervisors to foremen. The majority eight (8) of them were males while only two were females. This reflects the general position that most employees in construction projects are males. The construction industry is largely male dominated.

Job titles of managers and supervisors of skilled resources administrators	Gender			Ethnic group			Totals
	Male	Female	Black	Coloured	Asian	White	
Project Manager		1		1		0	1
Assistant Human Resources Manager		1		1		0	1
Quantity Surveyor	1		1			0	1
Assistant Quantity Surveyor	1			1		0	1
Civil Technician 1	1		1			0	1
Civil Technician 2	1			1		0	1
Project Foreman 1	1		1			0	1
Project Foreman 2	1			1		0	1
Human Resources Manager	1				1	0	1
Assistant Project Manager	1		1			0	1
Totals	8	2	4	5	1	0	10
Grand Total							10

Table 4.1: Job titles of managers and supervisors of skilled human resources by gender and ethnic group.

Table 4.1 also shows the racial differences in the respondents. Blacks and coloureds dominated the employees with only one (1) Asian and no whites. This racial and ethical

imbalance could not be easily explained but South Africa has been known to follow certain employment equity policies which have been aimed at redressing the apartheid era marginalization of mainly black and coloured people.

4.4.2 Nature and period of employment.

Table 4.2 provides details of the nature and period of employment of the respondents. The majority eight (8) of the respondents were permanently employed while only two were contract employees at the company. There are two basic forms of employment contracts, those which are indefinite and contracts that expire after a stated time period, which are called fixed term contracts. Chinguno (2009:35) uses the term limited contract duration (LCD) to refer to fixed term contracts in the construction sector while (Bamu & Godfrey 2009:9) use the term casual for short term contracts and 'externalisation' to mean the contracts of employees from subcontractors and labour brokers.

Job titles of managers and supervisors of skilled resources administrators	Nature of employment	Period in employment
Project Manager	Permanent	11 years
Assistant Human Resources Manager	Permanent	5 years
Quantity Surveyor	Permanent	5 years
Assistant Quantity Surveyor	Permanent	3 years
Civil Technician 1	Permanent	2 years
Civil Technician 2	Permanent	8 years
Project Foreman 1	Contract	14 years
Project Foreman 2	Contract	8 months
Human Resources Manager	Permanent	12 years
Assistant Project Manager	Permanent	4 years

Table 4.2: Nature and period of employment.

4.5 Strategies to overcome challenges encountered in the recruitment and retention of skilled workers.

4.5.1 Job advertisement media.

The managers, administrators and supervisors of skilled personnel in the organization were required to provide details of the media that they use to recruit skilled workers for their company. This was deemed important, as media determines how many people can be reached when advertising a vacant position. Table 4.3 provides the responses from the administrators, managers and supervisors of skilled personnel.

Media	Number who agreed on the use of media	Percentage (%)
Radio	0	0
Television	0	0
Newspaper	6	60
Internet	3	30
Social media platforms	1	10

Table 4.3: Job advertisement media.

As revealed in Table 4.3 above, the company relied more frequently on newspapers and secondly the internet than on other media platforms to advertise vacant job positions. There were also indications that social media platforms such as WhatsApp, Facebook and Twitter were also used to advertise jobs. The construction sector is known for using subcontractors and labour brokers. The twin issues of subcontracting and labour broking have always posed problems in the construction sector because the industry is 'project based' (Bamu and Godfrey, 2009:7). Labour brokers present issues in the construction industry because, despite the fact that the workers are employed by the principal contractor, they are still subject to the terms and conditions set forth by the brokers, which may be very different from those offered by the principal contractor. As a result, workers at the same workplace can be subjected to different conditions (Chinguno, 2009:42). Sub-contracted workers and labour brokered workers' conditions of service are determined by the subcontractors or labour brokers concerned.

The respondents were also asked their perspectives of what the company should do to evade the challenges faced in the recruitment and selection of skilled workers. Table 4.4 provide the views of the respondents on strategies such as: apprenticeship training; introduction of incentives; offering remuneration above bargaining council rates; and engaging labour brokers.

	Comparison scale	Respond with a X	Percentage (%)
Apprenticeship training	Yes	8	80
	No	2	20
Attaching more incentives	Yes	2	20
	Somewhat	3	30
	No	5	50
Remuneration above bargaining council rates	Yes	6	60
	Somewhat	2	20
	No	2	20
Engaging labour brokers	Yes	2	20
	Somewhat	2	20
	No	6	60

Table 4.4: Responses to the question: What do you think the company must do to evade challenges associated with recruiting and retaining skilled workers?

The results demonstrate that the listed strategies are: apprentice training; attaching incentives; remunerating above bargaining council rates; and engaging labour brokers. According to the study as presented in table 4.4, apprenticeship training was the most preferred strategy for evading challenges of recruiting and retaining skilled construction workers.

Attaching more incentives and engaging labour brokers received the least support. Barge (2014:3) concurs with the above findings as he states that attaching incentives requires a tool between activities and certain separable consequences such as verbal rewards. Therefore, satisfaction does not come from acts themselves but causes external consequences to lead the action. According to Hauptfleisch & Sigle (2000), cited in Chinguno (2009:34), the construction sector is extremely fragmented and cyclical, with different role actors executing diverse responsibilities. This reasoning becomes clearer when you realize that construction is frequently organized along project lines, and work is assigned to contractors through tenders. A principal contractor is assigned to a project and is in charge of the implementation.

Figure 4.1 shows factors that affect the recruitment and retention of skilled personnel in the construction industry that were also examined. Nine factors were presented. There was a high level of agreement on all nine of the variables as they were generally agreed upon, with the exception of the claim that skilled workers show contractor loyalty all the nine factors, except on the assertion that skilled workers demonstrate loyalty. In respect of the assertion that skilled workers demonstrate loyalty, thirty percent (30%) were unsure. This can be interpreted to mean that skilled workers may

have loyalty problems resulting in the respondents before unsure in their answers. The survey was not definitive based on the replies given on the recruiting and retaining of competent individuals because the percentages of agreement and disagreement on the matter were almost balanced. Some studies have reported that the construction sector has serious recruitment and retention challenges which results in the employment of migrant workers for flexibility (Chinguno (2009:45).

In consideration of Figure 4.1, five assertions (as listed below) had the same agreeable percentage (of 50%). In other words, the study (as shown in Figure 4.1) revealed that fifty percent (50%) of the participants believed (agreed) that:

- Skilled workers' shortages impact project schedules;
- Harsh conditions of the construction industry may affect recruitment and retention of skilled workers;
- The construction industry bargaining council minimum wage was not attractive enough for skilled workers to keep their positions in the company;
- The company always recruit certificated skilled workers for skilled vacancies in construction projects; and that
- The company sometimes recruited skilled workers on a permanent basis.

As revealed in Figure 4.1 and as stated above, fifty percent (50%) of the respondents believed that harsh conditions of the construction industry may affect recruitment and retention of skilled workers. Additionally, fifty percent (50%) also agreed that the construction industry bargaining council minimum wage was not attractive enough for skilled workers to keep their positions in the company. The fact that half of the participants thought that hard working conditions and the construction industry bargaining council minimum pay were not adequate to keep competent workers in the company, provides a picture of a tremendous challenge in recruiting and retaining skilled construction workers.

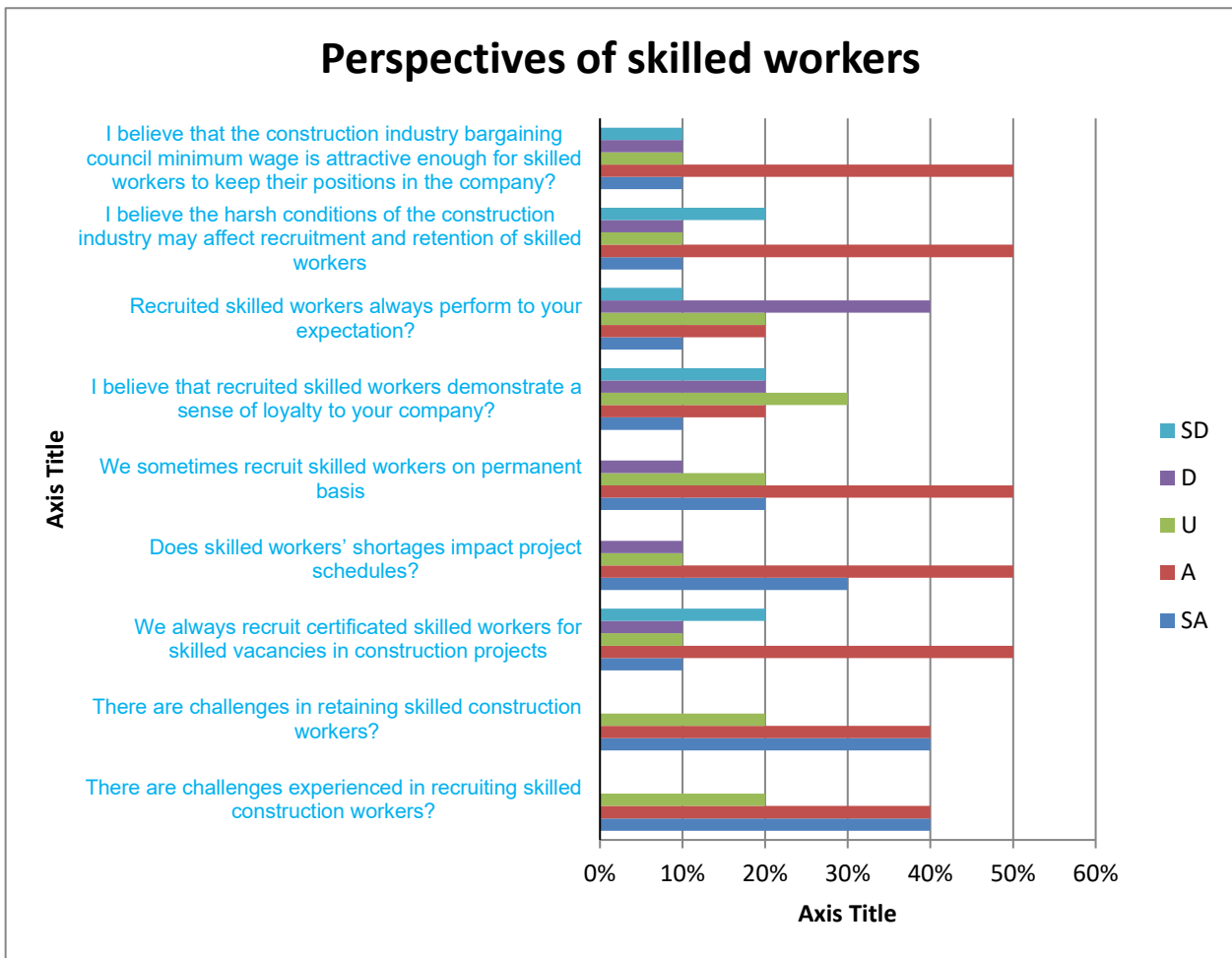


Figure 4.1: Perspectives of managers, administrators and supervisors.

4.6 Data from skilled resources.

4.6.1 Biographical information of skilled resources.

As explained earlier, information was gathered from two separate groups, notably: (1) the managers and (2) the skilled personnel. Sixty-two (62) skilled employees at the company participated in the study and details of their gender is provided in Table 4.5. 85.5% percent of the skilled employees were males. This reinforces earlier findings that the construction sector is male dominated and the possession of relevant skills seem to be skewed in favour of males. The other seven participants (11.3%) and two (3.2%) were females and transgender respectively as shown in Table 4.5 below.

Gender	Quantity	Percentage
Female	7	11.3
Male	53	85.5
Transgender	2	3.2

Table 4.5: Gender distribution of skilled resources.

The trades of the skilled personnel who took part in the study are shown in Table 4.6. The biggest proportion forty (40%) of the respondents were bricklayers while thirteen percent (13%) were carpenters and an equal percentage were plasterers. In addition, ten percent (10%) were plumbers and eleven percent (11%) were tillers. Six percent (6%) were electricians while two percent (2%) were welders and five percent (5%) were painters. The trades and how they were represented by skilled workers during the study are shown in Table 4.6

Trade	Respond with a X	Percentage
B/layer	25	40
Carpenter	8	13
Electrician	4	6
Painter	3	5
Plasterer	8	13
Plumber	6	10
Tiler	7	11
Other (welder)	1	2

Table 4.6: Trades and how they were represented in the study

4.6.2 How the skilled workers obtained their qualifications.

Responses on how skilled workers obtained their qualifications are presented in Table 4.7 below.

Training method	Respond with X
Valid Apprenticeship	17
Recognition of prior learning	13
Indoor training	11
TVET college	13
Learnership	8

Table 4.7: How the skilled workers obtained trade qualifications.

Table 4.7 shows the various ways in which skilled workers acquired their various trade qualifications. The results show that apprenticeship has been the major training method in which the respondents acquired their skills. Recognition of prior learning (RPL) was the second most popular training method while indoor training, TVET and

learnerships were also mentioned as training methods for the acquisition of skills by the respondents.

Forty-four percent (44%) of the respondents qualified through apprenticeship training, and this represented the larger group of participants. Despite a greater proportion having indicated apprenticeship training, it is not convincing enough to assist in combating the challenges of recruitment and retention of skilled construction workers. Apprentices, are, however considered to be important in recruitment of skilled personnel. According to Lerman (2019:6), preserving maximum apprentices largely benefit businesses appreciably because of loyalty, low recruitment and schooling charges. Loyalty is instrumental because it often entails less difficult recruitment and retention of skilled resources.

The respondents were skilled workers with many years of experience. Figure 4.2 below shows the years of experience of skilled workers. The greatest proportion (40%) had 6 to 10 years of experience.

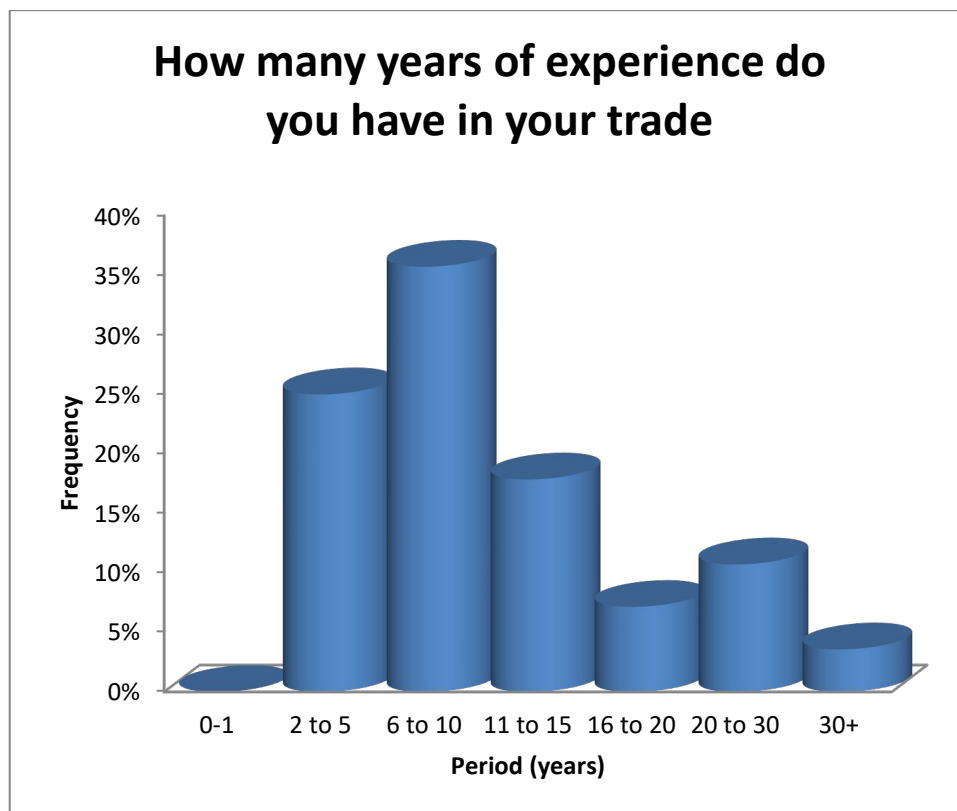


Figure 4.2: Respondents' years of experience

As such the data was collected from people with notable experience, whose views and perspectives could be respected and trusted. The above table also shows that, on average, skilled resources in the construction industry take 6 to 10 years before they decide to change trades or professions.

Figure 4.3 below shows the number of construction companies that the respondents have worked for. It shows that the twenty-nine percent (29%) have worked for two construction companies, whilst eleven percent (11%) have worked for only one construction company. A similar percentage (11%) had worked for 3, 5 and more than 7 construction companies. The study seems to suggest the prevalence of job hopping among the respondents meaning recruiting and retaining skilled workers in the construction industry remains a huge challenge to the employers.

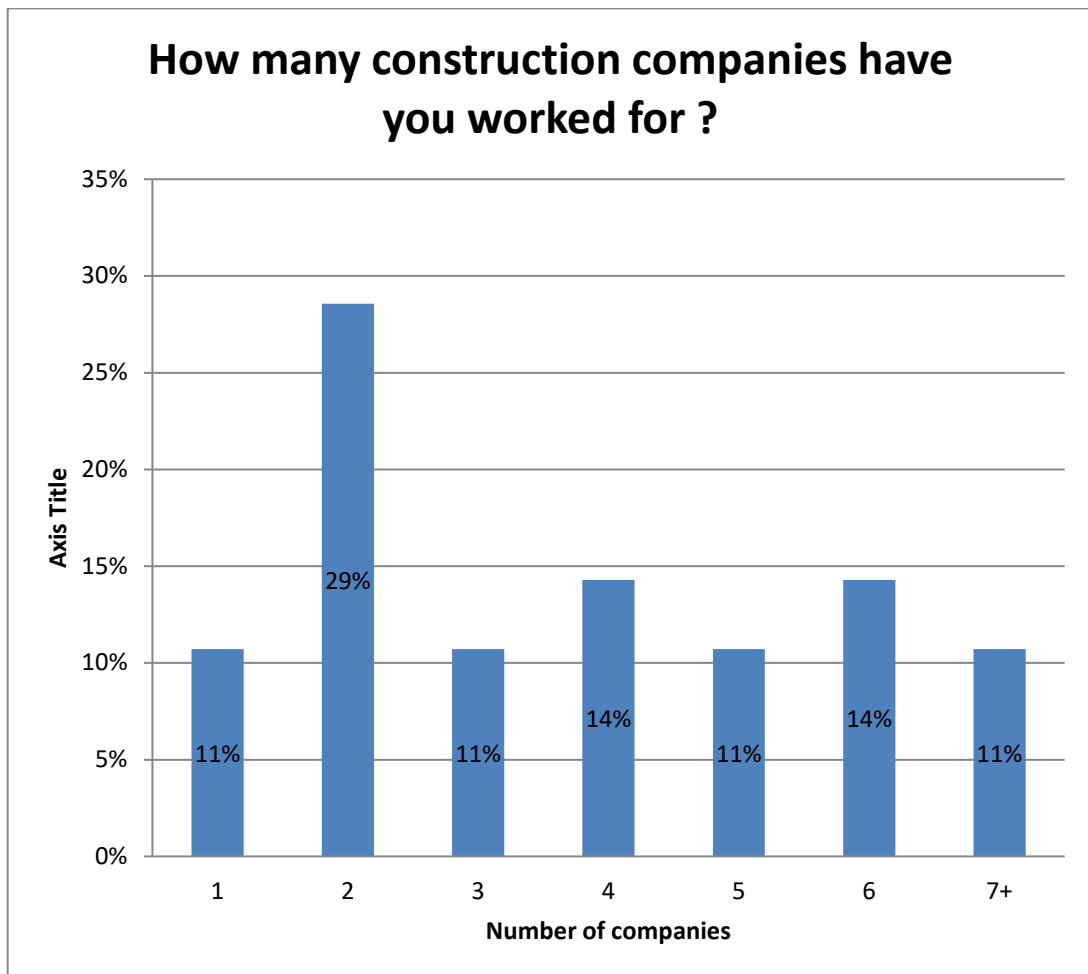


Figure 4.3: Number of construction companies worked for by the respondents

When the number of years that the respondents had worked for the particular construction company was considered, the results were as shown in Figure 4.4 below. It is clear that the majority of the respondents (52%) had worked for the company under study for 1 year or less thereby demonstrating the challenge of skills retention.

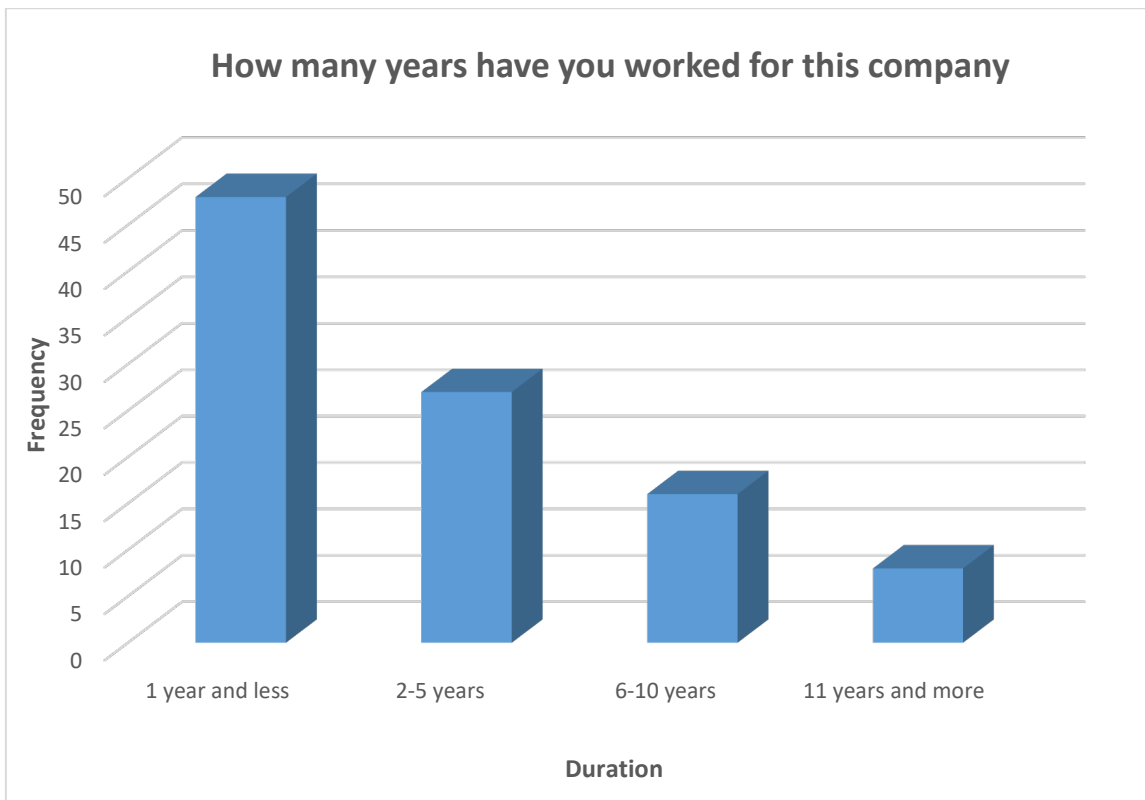


Figure 4.4: Number of years that respondents have worked at the company.

Respondents were also asked to indicate how they got their jobs. As shown in Figure 4.5 below, the data collected showed that 40% got their jobs through newspaper advertisements while thirty percent (30%) of the respondents got their jobs through the internet while another 30% got them through social platforms. This means that print media is still more accessible to many potential job candidates. However, the global world is fast becoming digital therefore many potential job candidates may not be reached. This situation poses challenges in recruiting skilled construction workers especially as the study has shown that the greater proportion of candidates (40%) still rely on print media.

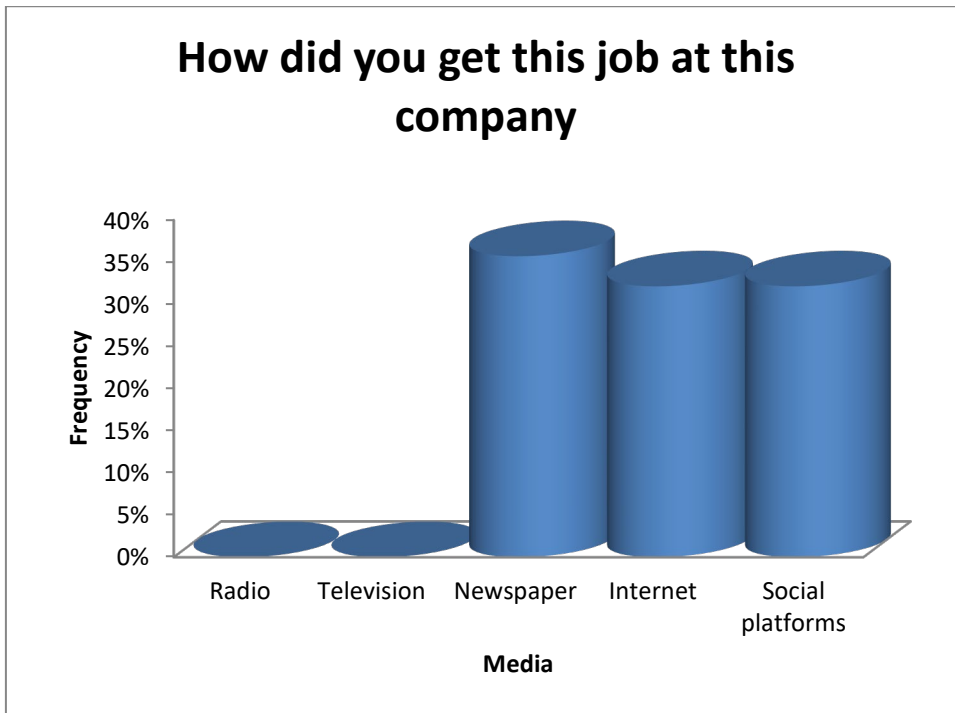


Figure 4.5: The media through which respondents got their jobs.

4.7 Perspectives of skilled workers on their recruitment and retention.

The perspectives of skilled workers were considered across a number of categories which are provided in Figure 4.6 below.

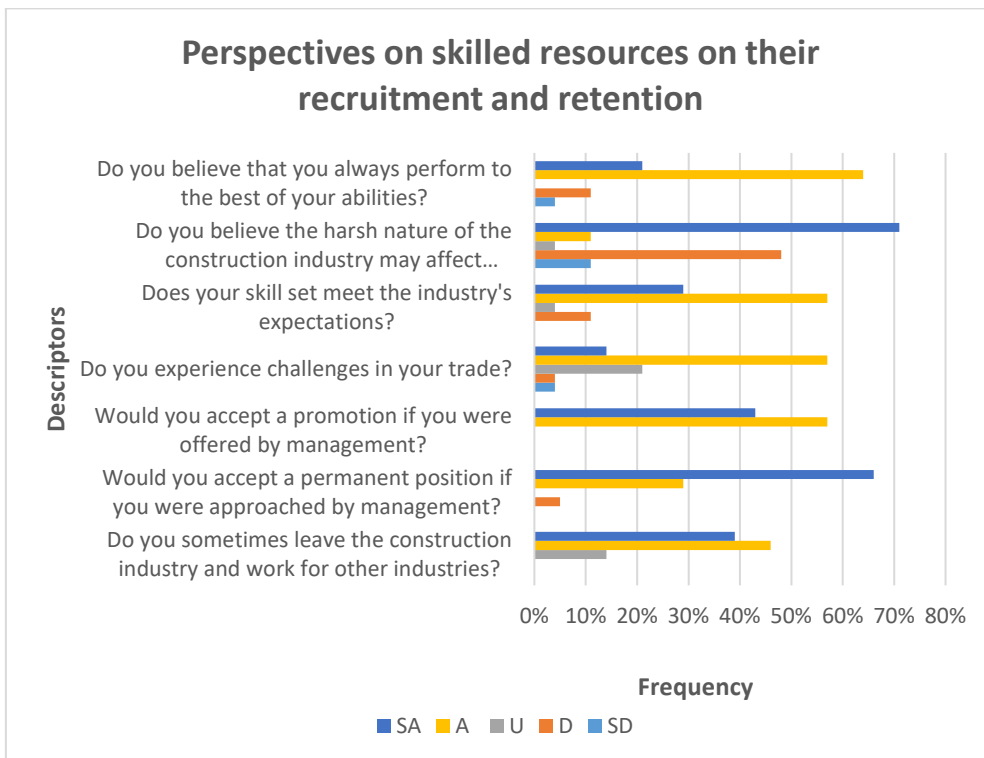


Figure 4.6: Perspectives of skilled human resources.

Of the sixty-two respondents, sixty-three percent (63%) agreed that they always perform to the best of their abilities while twenty-one percent (21%) strongly agreed. Eleven percent (11%) disagreed and four percent (4%) strongly disagreed that they always performed to the best of their abilities. The study also established that seventy-one percent (71%) strongly agreed that the harsh nature of the construction industry can affect the recruitment and retention of skilled workers. Schwetz, et. al., (2010:8) argued that workers' demands in the construction sector were strongly related to the economic downturn with high inflation, particularly food inflation and high petrol cost. In addition, the sector has a complicated labour relations system characterised by flexible work arrangements that have the effect of taking work relationships outside the protective scope of labour law (Bamu & Godfrey, 2009:1).

Respondents also agreed (57%) that their skills met basic industry expectations. This indication also demonstrates that a significant percentage (43%) lacked the relevant industry skills and their retention may be poor. This was likely to influence their desire to sustain employment with some other employers. Additionally, the research showed that the skilled workers agreed with the following:

- 14% strongly agreed and 57% agreed that they faced challenges in their trades;
- 43% strongly agreed and 57% agreed that they would accept promotion if it was offered to them;
- 66% strongly agreed and 39% agreed that they would accept a permanent position if they were approached by management; and
- 39% strongly agreed and 47% agreed that they would change industry if an opportunity presented itself.

4.8 Summary of findings.

Research question

What are the problems faced in recruiting skilled resources in construction projects?

Summary of main findings

Evidence from the study suggested that 71% of the respondents strongly agreed that the harsh nature of the construction industry may affect recruitment and retention of skilled workers.

Secondly, 46% of the respondents agreed that they will leave the construction industry and work for other industries and 57% agreed that they experienced challenges in their own trades.

Thirdly, job advertisements in the organisation are more reliant on newspapers, internet and social media platforms. In the search for a wider talent pool, these advertisement platforms may be inappropriate as they may not be easily accessed by many. As such, the recruitment of adequately skilled and talented human resources should be broadened to increase the chances of acquiring adequately skilled workers.

What are the skilled workers' expectations from the construction industry?

Data collected strongly suggested that skilled workers in the construction industry expect a clear and actively implemented career management and career progression strategy. The respondents provided data that they expected promotion and career advancement. This implies that skilled workers should not be viewed based on their trades but their possible career paths and personal development progressions.

What are the reasons for poor retention of skilled workers in construction projects? There was significant indication that the harsh conditions faced in the construction industry influence recruitment and retention of skilled workers. It might be important for organisations in the industry to make efforts to improve the working conditions of skilled workers in order to improve their retention.

Table 4.8 Summary of the key findings of this study in relation to the research questions.

4.9 Conclusion.

The radio is still considered to be the most accessible channel by potential skilled workers, according to data collected from managers and supervisors of skilled human resources on advertisements for skilled worker vacancies. Additionally, it is known that apprenticeship training is the most favoured kind of education since it fosters a sense of loyalty and community among trained professionals.

It has been noted that the demanding nature of the construction sector during the many seasons of the year makes it difficult for competent workers to afford to maintain their employment. Furthermore, skilled professionals stated their ideas regarding their welfare in a straightforward manner, stating that they want permanent roles, career progress, and promotion.

5. Chapter 5: Summaries, Conclusions and Recommendations.

5.1 Introduction.

This study stemmed from the realisation that construction projects follow strict adherence to completion and performance guidelines which require the involvement of skilled workers. Against this background, it has been observed that there are challenges related to the acquisition or recruitment and retention of skilled workers. A number of skilled workers from a broad range of trades such as: bricklaying; carpentry; painting; plumbing; plastering; and welding are required for construction projects. Given these needs, challenges encountered in the recruitment and retention of skilled personnel have been identified and reported. These challenges affect the implementation of construction projects and the realisation of their specific objectives.

The construction industry is essential to any country's economy, it represents a significant portion of national development, employs a notable number of people and significantly contributes to national economic activity. The study was designed to look into the difficulties that are associated with recruiting and retaining qualified workers at a specific construction firm based in Cape Town. While it is true that the construction industry has a high demand for skilled personnel in its various trades, it also attracts many migrants and unskilled employees. According to research, the construction industry is a popular entrance route for many migrants because it also employs a large number of unskilled workers. Migrant labourers provide low-cost, flexible labour that supplements the trained workforce. Migrant workers are often brought in by subcontractors and labour brokers. Migrant workers often accept low wages and work under deplorable conditions which are unacceptable to other employees and this has been found to be a source of tension within construction projects.

5.2 Chapter Summaries.

5.2.1 Chapter One.

The study's foundations were laid out in Chapter 1 in terms of background material, the problem description, and the study's objectives. The chapter observed the challenges faced by the construction industry in recruiting and retaining skilled workers. The objectives of the study were then set out as follows: (1) to identify the problem faced in recruiting skilled human resources in construction projects; (2) to identify the expectations of these workers from the construction industry; and (3) to ascertain the causes of poor retention of skilled resources in construction projects. The

chapter highlighted the directions in which the whole study followed and provided snapshots of all other chapters in the study.

5.2.2 Chapter Two.

Chapter Two comprised an extensive literature review that considered a broad range of theoretical, empirical and conceptual work on the challenges faced by the construction industry in the recruitment and retention of skilled workers. The literature was also broadly considered from a global and regional perspective. It was observed that the unavailability of skilled workers has an impact across continents as construction companies scramble to secure key personnel in various trades. The literature review noted some challenges such as competition among construction companies seeking to acquire and retain skilled workers. The literature reviews also found that some skilled workers do not in fact prefer to work in the construction industry. It was found that the construction industry is considered as physically demanding and is characterised by an uncomfortable environment. As a result, some skilled workers with immediate employment options, were found to dismiss construction work in preference for manufacturing, marketing, retail, hospitality, recreation, tourism and many others, which offer comfortable working conditions and easier work packages. Scholarly work reviewed in this chapter also showed that the construction sector is often affected by brain drain as skilled individuals sought for green pastures overseas.

5.2.3 Chapter Three.

The literature study revealed that difficulties in attracting and retaining talented workers are strongly tied to contextual factors and other particular circumstances in which construction firms operate. As such, Chapter three described and justified the research approach used in the study. Consequently, an exploratory quantitative design was adopted and explained in detail in Chapter three. The specific data collection methods and tools including the philosophical assumptions of the study were explained. Chapter three indicated that the data was collected using a questionnaire with Likert type and close-ended items.

5.2.4 Chapter Four.

In Chapter Four, data was presented and analysed to answer the research questions that were outlined in Chapter One. Following the data presentation and analysis from

Chapter Four, the following findings were made in relation to the research questions set for the study:

5.2.4.1 Research question one: What are the problems faced in recruiting skilled workers in construction projects?

Evidence from the study suggested that the recruitment process in the selected organisation, is mostly reliant on newspapers and social media advertisements. This affects the coverage in the search for a wider pool of talent. As such, the recruitment of adequately skilled and talented workers should be broadened to increase the chances of acquiring adequately skilled workers as the globe is fast turning digital.

Secondly, evidence from the study suggested that the harsh nature of the construction industry affects recruitment meaning even if the skilled personnel realise that there are vacant positions, they are reluctant to fill up the vacancies.

Thirdly, the study suggests that skilled workers also experience challenges in the mastery of their own trades. This could also keep them away and make them reluctant to attempt to seek employment in the construction sector.

5.2.4.2 Research question two: What are the skilled workers' expectations from the construction industry?

- Data collected in this study significantly suggested that skilled workers in the industry expect a clear and actively implemented career management and career progression strategy. The respondents provided strong data that they expected promotion and career advancement. This implies that skilled workers should not be viewed based on their trades but their possible career paths and personal development progressions.
- In addition, skilled workers expect permanent position appointments which are not feasible for a large number of workers following the nature of construction jobs which are primarily based on projects.

5.2.4.3 Research question three: What are the causes of poor retention of skilled workers in construction projects?

- There was strong indication that the harsh conditions faced in the construction industry influence recruitment and retention of skilled workers. It might be important for organisations in the industry to make efforts to improve the working conditions of skilled workers in order to improve their retention.

- Secondly, findings suggest that skilled workers often leave the construction industry and work for other industries owing to open vacancies throughout the project life span.

5.3 Delimitations to the study.

This enquiry implemented strategies to address its possible limitations by relying on established reliability and validity techniques that attend to methodological, conceptual and geographical limitations. In addition to adopting an exploratory, quantitative research design which was based on a questionnaire for which both Likert type items and other closed-ended questions complemented each other, the study was carefully aligned to its objectives. Thoroughness can go with pursuing only one method in a study. In this study standard methods of analysis were used.

5.4 Recommendations.

Given the results of this study, the following recommendations can be made in respect of recruitment and retention of skilled resources.

- It was found that the case organisation relied on limited job advertisement in the media. As such, the recruitment of adequately skilled and talented workers should be broadened through collaborations in the entire industry to increase the chances of acquiring adequately skilled workers for example the use of radio and television which was not attempted at all.
- Following the findings that skilled workers expect career progression, it is recommended that construction companies should devise clear career progression plans for skilled workers.
- Given the issues of nepotism and political influence cited as challenges encountered during the recruitment process, it is suggested that labour unions be involved in the selection and recruitment process to ensure that credible, talented personnel are recruited.
- With the advancement to Industry 4.0, organisations in the construction sector are encouraged to acquire relevant technologies that improve the working conditions of skilled workers so as to improve their retention.
- The study also recommends the strengthening of labour relations in the construction industry involving both centralised and decentralised bargaining.

- Apprenticeship training is a better choice for addressing both the issues of attracting and retaining qualified workers. Most organizations integrate apprentices into their workforce when they complete their training. This lowers the cost of advertising and shortens the time to recruit new talented employees.
- Apprentices have a high level of appreciation, morale, and loyalty when they are assigned to substantive roles by the same company that would have afforded them with training, which provides a retention benefit to the organisation.

5.5 Future Areas of Research

The researcher recognises that because the study was based on a case study of a single construction company with situated in Cape Town, its conclusions may not be totally generalisable to other companies in the industry. Therefore, in order to improve external validity, the researcher advises that future studies be conducted on more continents and at a larger scale.

5.6 Conclusion.

This study has explored recruitment and retention of skilled human resources in the construction industry. It has produced important findings on the challenges faced by the construction industry in acquiring and retaining skilled personnel. The literature review conducted established various challenges in recruiting and retaining skilled workers. These challenges include: poor working conditions; the lack of a career management plan for skilled workers and perceptions that working in the construction sector is harsh and physically demanding. The data collected from the study showed that skilled workers expect a favourable and clear career progression plan that allows them to remain in employment. In terms of recruitment, the organisation that was analysed practised limited recruitment strategies, which did not allow for a full and broad search for talent.

Furthermore, evidence from the study suggested that the nature of labour relations in the construction sector require attention from authorities. This study has echoed other studies which have found the need to improve working conditions in the construction sector and the need to ensure effective career management. Future research can focus on the factors influencing / associated with the motivation and job satisfaction of skilled workers in the sector as these might be important factors that affect their recruitment and retention.

6. Bibliography.

Abdullah, N.Z., Arshad, R.A. & Ariffin, M.H. 2013. Technical Female Graduates in The Malaysian Construction Industry: Attrition Issues. *International Surveying Research Journal*, 3(1): 35-43.

Abdullahi, U., Anum, I. & Williams, F.N. 2015. Artisans Working Conditions in the Nigerian Construction Industry: A Case Study of Some States in Northern Nigeria 1. *ABTU Journal of Environmental Technology*, 8(1): 16–25.

Aiyetan, A. O. 2015. Determinants of Skill Shortages of construction workers at the Eastern Cape Province of South Africa. Durban, s.n: 78-89.

Apuke, O. D. 2017. Quantitative research methods a synopsis approach. *Arabian Journal of Business and management review (Kuwait chapter)*, 6(10): 40-47.

Bacon-Shone, J. 2015. Introduction to quantitative research method. *Research Gate*: 37.

Bamu, P.H. & Godfrey, S. 2009. An analysis of collective bargaining arrangements in the construction industry. *Labour and Enterprise Policy Research, University of Cape Town*. Report commissioned by the Labour Research service. 4(2):16

Barge, J.E. 2014. Motivating workers in construction. *Journal of Construction Engineering*, Volume 2014: 3-4.

Baron, I.S. 2018. The Challenges of Recruitment and Selection Systems in Indonesia. *Journal of Management and Marketing Review*, 3(4): 186-188.

Beyer, H., Rojas P, & Vergara, R., 1999. Trade liberalization and wage inequality. *Journal of Development Economics*, 59(1): 103-123.

Bowen, P., Edwards, P., Lingard, H. & Cattell, K. 2014. Workplace Stress Effects, and Coping Mechanisms in the Construction Industry, (2): 1–15.

Brace, I. 2013. Questionnaire design: *how to plan, structure and write survey material for effective market research*, 51(2): 82.

Brink, G. 2012. Factors contributing to the emigration of skilled South African migrants to Australia. *Johannesburg journal*: 663-687.

Brunello, G & Wruuck P, 2019 Skill Shortages and Skill Mismatch in Europe: A Review of the Literature. Discussion paper series vol. 12346:7.

Chimuka, L. 2016. A study on the challenges that are faced by the Human Resources Department on recruitment and selection. *A case study Chinhoyi University of Technology in Mashonaland West Province*: 14-18.

Chinguno, C. 2009. World Cup 2010; Militant Construction Workers Challenge Trade Unions. *South African labour bulletin*, June/July 33 (2): 12-15.

Christensen, L.B., Johnson, R.B. & Turner, L.A. 2015. Research Methods, Design, and Analysis. 12th Global edition. *Essex: Pearson Education*:156.

- Clarke, L. & Herrmann, G. 2007. Skill shortages, recruitment and retention in the housebuilding sector. *Westminster Research*, pp. 15-18.
- Creswell, J.W. & Creswell, J.D. 2017. *Research Design: Qualitative, Quantitative and mixed approaches*. New Delhi: SAGE publications. 5th ed:22
- Creswell, J.W., Hanson, W.E., Plano, V.L.C. & Morales, A. 2007. Qualitative research designs: selection and implementation. *The counselling Psychology*, 35(2): 236-260.
- Davidescu, AA., Apostu, SA., Paul, A & Casuneanu, L. 2020. Work Flexibility, Job Satisfaction, and Job Performance among Romanian Employees—Implications for Sustainable Human Resource Management 12(15):9.
- Evers, A. A. (2005). *The Blackwell handbook of Personnel Selection*. 48.
- George, R. 2013. Effect of leadership styles on job-stress related presentism: 17-19.
- Hancock, B. 2009. Trent Focus for Research and Development in Primary Health Care: An Introduction to Qualitative Research. *The NIHR Research Design Service*: 6-8.
- Heraty, N. & Morley M. 1998. In search of good fit: policy and practice in recruitment and selection in Ireland. *Journal of Management Development*, 17(9): 663-687.
- Hutchings, K., De Cieri, H. & Shea, T. 2011. *Employee attraction and retention in the Australian resources sector*, 53(1): 14-16.
- Jawale, K.G. 2018. Methods of Sampling Design in the Legal Research: Advantages and Disadvantages. *Online International Interdisciplinary Research Journal*, 2(4):184-185.
- Johnson, R.B., Onwuegbuzie, A.J. & Turner, L.A. 2007. Journal of Mixed Methods Research. *Toward a definition of mixed method research*, 1(2): 129.
- Kappa, J.G., Dainty, A. & Price, A. 2007. Prioritising career development in relation to recruitment and retention: a trade and craft perspective. *Construction Management and Economics*, 25(3): 1-2.
- Kapse, A.S., Patil, V.S and Patil, N.V. 2012 E- Recruitment, *International Journal Of Engineering And Advanced Technology (IJEAT)* 1(4): 82
- Kincheloe, J.L. & McLaren, P. 2011. *Rethinking Critical Theory and Qualitative Research*. 32nd edition. 277- 278. Atlanta: Sense Publishers.
- Kumar, R. 2014. *Research Methodology: step by step guide for beginners*. 4th edition: 183. Singapore: Sage Publication.
- J Kwon, J. & Hein P. 2013. Employee benefits in a total rewards framework: 33 -34.
- Lerman, R. 2019. Do firms benefit from apprenticeship investments? *World of labour*, 2(6): 6-8.
- Letshokgohla, M.P. 2015. An Assessment of the Recruitment, Selection and Retention of Technical staff in the Limpopo Department of Agriculture: 34-36.
- Maben, J., Taylor, C., Dawson, J., Leamy, M.C, McCarthy, I., Reynolds, E.F., Ross, S., Shuldham, C., Bennett, L, and Foot, C. (2018). A realist informed mixed-methods evaluation of Schwartz Center Rounds® in England. 6(37)

- Manap N., Noh, N.H.M. & Syahrom, N. 2017. Recruitment criteria and attraction strategies for local trainee d. Malaysia, IOP Publishing. 1-2.
- Megh Bahadur, K.C., Mishra A.K. & Karki R. 2020. Assessment of Bidding Practices and Effectiveness of E-Bidding System in Nepal. *East African Scholars Journal of Economics, Business and Management*, 3(7): 10-11.
- Molina-Azorin, JF., Tari, JJ., Lopez-Gamero, MD., Pereira-Moliner, J. & Pertusa Ortega, EM. 2018. The Implementation and Advantages of Mixed Methods in Competitive Strategy and Management Systems. *International Journal of Multiple Research Approaches*, 10(1): 412-425.
- Morgeson, F.P., Brannick, M.T. & Levine, E.L. 2019. Job and work analysis: *Methods, research, and applications for human resource management*. 3rd edition. Los Angeles: SAGE publication. 10-11.
- Muguongo, MM., Muguna, AT. & Muriithi, DK. 2015. Effects of Compensation on Job Satisfaction Among Secondary School Teachers in Maara Sub - County of Tharaka Nithi County, Kenya, vol. 3(6). Science publishing group.
- Mujere, N. 2016. Sampling in Research. *Mixed Methods Research for Improved Scientific Study*, 3(1):107-108.
- Ness, K. 2011. Constructing masculinity in the building trades: 'Most jobs in the construction industry can be done by women', 19(6): 88-89.
- Ngoc Su, D., Luc Tra, D., Thi Huynh, H. M., Nguyen, H. H. T., & O'Mahony, B. (2021). Enhancing resilience in the Covid-19 crisis: Lessons from human resource management practices in Vietnam. *Current Issues in Tourism*, 1–17.
- Nkomo, W. & Thwala, W.D. 2009. Problems facing construction companies in retention of employees in South Africa: a case study of the Gauteng Province. CIDB PAPER 22, pp. 117-118.
- Olatunji, A.A. 2015 Determinants of Skill Shortages of Construction Workers at the Eastern Cape Province of South Africa. *Association of Schools of Construction of Southern Africa. The Ninth Built Environment Conference, 2 - 4 August 2015*. 78-79. Durban: ASOCSA.
- Olsen, D., Tatum, M. & Defnall, C. 2012. How Industrial Contractors Are Handling Skilled Labour Shortages in the United States. Page 77.
- Patro, CS and Kumar KS. 2019. Effect of Workplace Stress Management Strategies on Employees' Efficiency. *International Journal of Scientific Development and Research*, 4(5): 413
- Paus, E. 2018. AVOIDING THE MIDDLE-INCOME TRAP IN ASIA, The Role of Trade, Manufacturing, and Finance page 62.
- Polit, D. & Hungler, B. 1999. *Nursing Research: Principle and Method*, 6th ed.; Philadelphia: Lippincott Company: 37
- Rabin, R 2018 Internship Report on Recruitment and Selection Process of Rangs Industries Limited page 25.

- Rojas, E. 2013. Identifying, Recruiting, and Retaining Quality Field Supervisors and Project Managers in Electrical Engineering, 29(4): 424-435.
- Roopa S. & Rani M.S. 2012 Questionnaire Designing for a Survey. *J Ind Orthod Soc*; 46(4): 273-277.
- Roskam, A. & Chinguno, C. 2009. 2010 soccer stadiums, lessons to muddled labour relations. *South African Labour Bulletin, June/July* 33(3): 12-14.
- Saliha, G.P. 2018. Leadership Styles: Moderating Impact on Job Stress and Health. *Journal of Human Resources Management Research*, 2018 (2): 2-4.
- Samuels, P. 2020. A really simple guide to quantitative data analysis. Birmingham City University. Page 1.
- Schwartz, W., McGuire, D. Chinguno, C. 2012 Why should trade unions pay attention to mega sports events? Page 41.
- Taylor, P.C. & Medina, M. 2011 Educational research paradigms: *From positivism to pluralism*. *College Research Journal*, 1(1): 1-16.
- Tarsi, K and Tuff, T. (2012). Introduction to Population Demographics. *Nature Education Knowledge* 3(11):3.
- Tashakkori, A. & Creswell, J.W. 2007. *Journal of Mixed Methods Research*, 1 (1): 4
- Thomas, G. 2021. How to do your case study. London: SAGE publication Ltd: 3.
- Van Rooyen, L., Du Toit, D.H. & Botha, E. 2010. Artisan retention in an organisation in South Africa. *SA Journal of Human Resource Management*, 8(1): 4-8.
- Watts, A. 2013. Career guidance and orientation. Bonn, UNESCO-UNEVOC *International Centre for Technical and Vocational Education and Training*, Geneva: 249-250.
- Waxin, M. 2018. Workforce localization in the UAE: recruitment and selection challenges and practices in private and public organizations. *The Journal of Developing Area*, 52(4): 93-119.
- Williams, C. 2007. Research Methods. *Journal of Business and Economic Research*, 5(3): 65-71.
- Whysall, Z., Owtram, M. & Brittain, S. (2019) The new talent management challenges of Industry 4.0. *Journal of Management Development*. 36(2):14-16.
- Zaki, S.A., Mohamed, S.F and Yusof, A.M. 2012 Construction skilled labour shortage –The challenges in Malaysian construction sector. *OIDA International Journal of Sustainable Development*, 4(5): 100-106.
- Zinyemba, A. 2014. The Challenges of Recruitment and Selection of Employees in Zimbabwean Companies. *International Journal of Science and research*, 3(1): 5-10.

7. Appendices.

7.1 Appendix A: Questionnaire for human resources personnel and project managers.

The study is on:

The challenges of skilled resources recruitment and retention in construction projects. A case of a cape town based Construction Company.

My name is Emmerson Tsine student number 213291754.

I am in the process of conducting research work in partial fulfilment of the M-Tech Business Administration degree focusing in Project Management at the Cape University of Technology.

The purpose of the attached questionnaire is to gain an understanding on the challenges in skilled resources recruitment and retention in construction projects

Your participation would be appreciated. Please note that the completion of the questionnaire is voluntary. You may not fill in the questionnaire if you do not consent to the research. The information will be used for academic purposes only.

Enquiries about the questionnaire or the research project may be directed to the researcher.

Thank you for taking part in this research.

Kind Regards,

Emmerson Tsine.

Cell: 0835 677 061

Whatsapp 081 458 2658

SECTION A.

Biographical and General Information.

Question 1.1

What is your gender?
Please respond with an **X**.

Female
Male
Transgender

Table 1.1 Gender.

Question 1.2

What is your ethnic group?
Please respond with an **X**.

Black
Coloured
White
Asian
Others (specify)

Table 1.2 Ethnic group.

Question 1.3

What is your position in this construction company?
Please respond with an **X**.

Human Resources Manager
Assistant Human Resources Manager
Project manager
Assistant Project manager
Engineer
Engineering technician

Table 1.3 Position in the company.

Question 1.4

Is your appointment contract or permanent?
Please respond with an **X**.

Contract
Permanent

Table 1.4 Nature of appointment.

Question 1.5

How long have you worked for this company?
Please respond with an **X**.

	Period (years)	Respond with X
Valid	0-1	
	2-5	
	6-10	
	11-15	
	16-20	
	21+	

Table 1.5 Years working for the company.

SECTION B: RECRUITMENT AND RETENTION

Question 2.1

How do you advertise vacant skilled worker positions?
Please respond with an **X**.

	Media	Respond with a X
Valid	Radio	
	Television	
	Newspaper	
	Internet	
	Social media platforms	

Table 2.1 Media for advertisement.

Question 2.2

What do you think the company must do to evade challenges of recruiting and retaining skilled workers?

	Comparison scale	Respond with a X
	Yes	
	No	

Table 2.2.1 Apprenticeship training.

	Comparison scale	Respond with a X
	Yes	
	Somewhat	
	No	

Table 2.2.2 Attaching more incentives.

	Comparison scale	Respond with a X
	Yes	
	Somewhat	
	No	

Table 2.2.3 Remunerating above the bargaining council rates.

Comparison scale	Respond with a X
Yes	
Somewhat	
No	

Table 2.2.4 Engaging labour brokers.

SECTION C

Please read the statements in the table below and provide responses using a 5 point Likert scale.

	Question	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
3.1	This organisation faces challenges in recruiting skilled construction workers.					
3.2	This organisation has challenges in retaining skilled construction workers.					
3.3	This organisation always recruit certificated skilled workers for skilled vacancies in construction projects.					
3.4	Skilled workers' shortages impact project schedules.					
3.5	This organisation sometimes recruit skilled workers on permanent basis.					
3.6	You believe that the skilled workers you recruit demonstrate a sense of loyalty to your company.					
3.7	The skilled workers we recruit always perform to our expectation.					

3.8	You believe the harsh conditions of the construction industry may affect recruitment and retention of skilled workers.					
3.9	I believe that the construction industry bargaining council minimum wage is attractive enough for skilled workers to keep their positions in the company.					

Table 3.1 Likert Scale

Thank you so much for answering the questions.

7.2 Appendix B: Questionnaire for skilled human resources

The study is on:

The challenges of skilled resources recruitment and retention in construction projects. A case of a cape town based Construction Company.

My name is **Emmerson Tsine** student number 213291754.

I am in the process of conducting research work in partial fulfilment of the M-Tech Business Administration degree focusing in Project Management at the Cape University of Technology.

The purpose of the attached questionnaire is to gain an understanding on the challenges of skilled resources recruitment and retention in construction projects

Your participation would be appreciated. Please note that the completion of the questionnaire is voluntary. You may not fill in the questionnaire if you do not consent to the research. The information will be used for academic purposes only.

Enquiries about the questionnaire or the research project may be directed to the researcher.

Thank you for taking part in this research.

Kind Regards,

Emmerson Tsine.

Cell: 0835 677 061

WhatsApp 081 458 2658

SECTION A.

Biographical and General Information.

Question 1.1

What is your gender?
Please respond with an **X**.

Female
Male
Transgender

Table 1.1 Gender

Question 1.2

What is your trade?
Please respond with an **X**.

	Trade	Respond with a X
Valid	B/layer	
	Carpenter	
	Electrician	
	Painter	
	Plasterer	
	Plumber	
	Tiler	

Table 1.2 What is your trade?

For others, please specify

Question 1.3

How did you qualify for your trade?

	Training method	Respond with X
Valid	Apprenticeship	
	Recognition of prior learning	
	Indoor training	
	TVET college	
	Learnership	

Table 1.3 How did you qualify for your trade?

SECTION B

Recruitment and retention

Question 2.1

How many years of experience do you have in your trade?

	Period (years)	Respond with X
Valid	0-1	
	2-5	
	6-10	
	11-15	
	15-20	
	21-30	
	30+	

Table 2.1 Years of experience in your trade.

Question 2.2

How did you get this job at this company?

	Media	Respond with X
Valid	Radio	
	Television	
	Newspaper	
	Internet	
	Social platforms	

Table 2.2 How you got this job at this company

Question 2.3

How many years have you worked for this company?

	Period (years)	Respond with X
Valid	0-1	
	2-5	
	6-10	
	11-15	
	16-20	
	21+	

Table 2.3 Years of experience in your trade.

Question 2.4

How many construction companies have you worked for?

	Period (years)	Respond with X
Valid	1	
	2	
	3	
	4	
	5	
	6	
	7+	

Table 2.4 Number of construction companies have you worked for.

SECTION C: RECRUITMENT AND RETENTION

Please read the statements in the table below and provide responses using a 5 point Likert scale.

	Question	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
3.1	You sometimes leave the construction industry and work for other industries.					
3.2	You will accept a permanent position if you were approached by management.					
3.3	You will accept a promotion if you are offered by management.					
3.4	You experience challenges in your trade.					
3.5	Your skill sets meet the industry expectation.					
3.6	You believe the harsh nature of the construction industry may affect recruitment and retention of skilled workers?					
3.7	You believe that you always perform to the best of your ability.					

Table 1.6 Likert Scale

Thank you so much for answering the questions.

7.3. Appendix C: Consent letter to participate in a research study



29 January 2021

To Whom It May Concern:

We hereby acknowledge that Emmerson Tsine has our permission to carry out his research within our company.

Don't hesitate to contact me for any further assistance.

Yours sincerely,

Francis Jogo (Director)

Cell: +27825888340

FRANCO&RAC Construction Co.

www.francoandrac.co.za


7.4. Appendix D: Ethics clearance certificate

Office of the Chairperson Research Ethics Committee	FACULTY: BUSINESS AND MANAGEMENT SCIENCES
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The Faculty's Research Ethics Committee (FREC) on **15 June 2020** ethics **APPROVAL** was granted to **Emmerson Tsine (213291754)** for a research activity for **M Tech: Business Administration in Project Management** at Cape Peninsula University of Technology.

Title of dissertation / thesis / project:	The challenges of skilled resources recruitment and retention in construction projects: A case of a Cape Town based construction company Lead Supervisor (s): Mr S. Fore
---	--

Decision: APPROVED

	21 July 2021
Signed: Chairperson: Research Ethics Committee	Date

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the CPUT Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study requires that the researcher stops the study and immediately informs the chairperson of the relevant Faculty Ethics Committee.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing accompanied by a progress report.
5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of

study. Adherence to the following South African legislation is important, notably compliance with the Bill of Rights as provided for in the Constitution of the Republic of South Africa, 1996 (the Constitution) and where applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003 and/or other legislations that is relevant.

6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
7. No field work activities may continue after two (2) years for Masters and Doctorate research project from the date of issue of the Ethics Certificate. Submission of a completed research ethics progress report (REC 6) will constitute an application for renewal of Ethics Research Committee approval.

Clearance Certificate No | 2021_FBMSREC 045

7.5 Appendix E: Grammarian certificate.

GRAMMARIAN CERTIFICATE

MELKOZAH CONSULTING

28 February 2022

Dear Sir/ Madam

Re: Confirmation of proof reading of thesis for Emmerson Tsine, Student Number 213291754

This confirms that I have proof read and edited the research study entitled “*The Challenges of Skilled Resources Recruitment and Retention in Construction Projects. A Case of a Cape Town Based Construction Company*”. I have advised the candidate to make some substantive changes before final submission.

Thank you.

Yours faithfully



MELODY RUMBIDZAI KOZAH

Editor

melkozah@gmail.com

+27 78 398 7468

7.6 Appendix F: Turnitin report.

THE CHALLENGES OF SKILLED RESOURCES RECRUITMENT AND RETENTION IN CONSTRUCTION PROJECTS.A CASE OF A CAPE TOWN BASED CONSTRUCTION COMPANY.

ORIGINALITY REPORT

15%	13%	1%	6%
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PRIMARY SOURCES

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